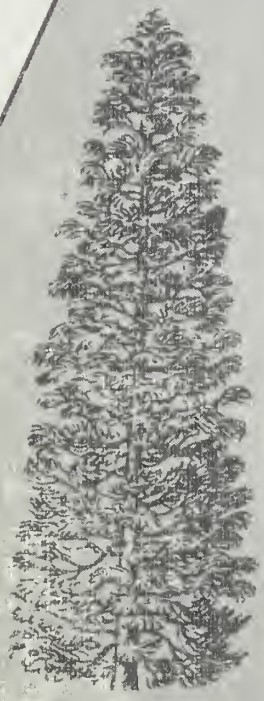
MINES AND MINERAL RESOURCES OF TRINITY COUNTY, CALIFORNIA



COUNTY REPORT 4

CALIFORNIA DIVISION OF MINES AND GEOLOGY

Mines and Mineral Resources of

TRINITY COUNTY

California

By J. C. O'BRIEN, *Mining Engineer, Retired*
California Division of Mines and Geology

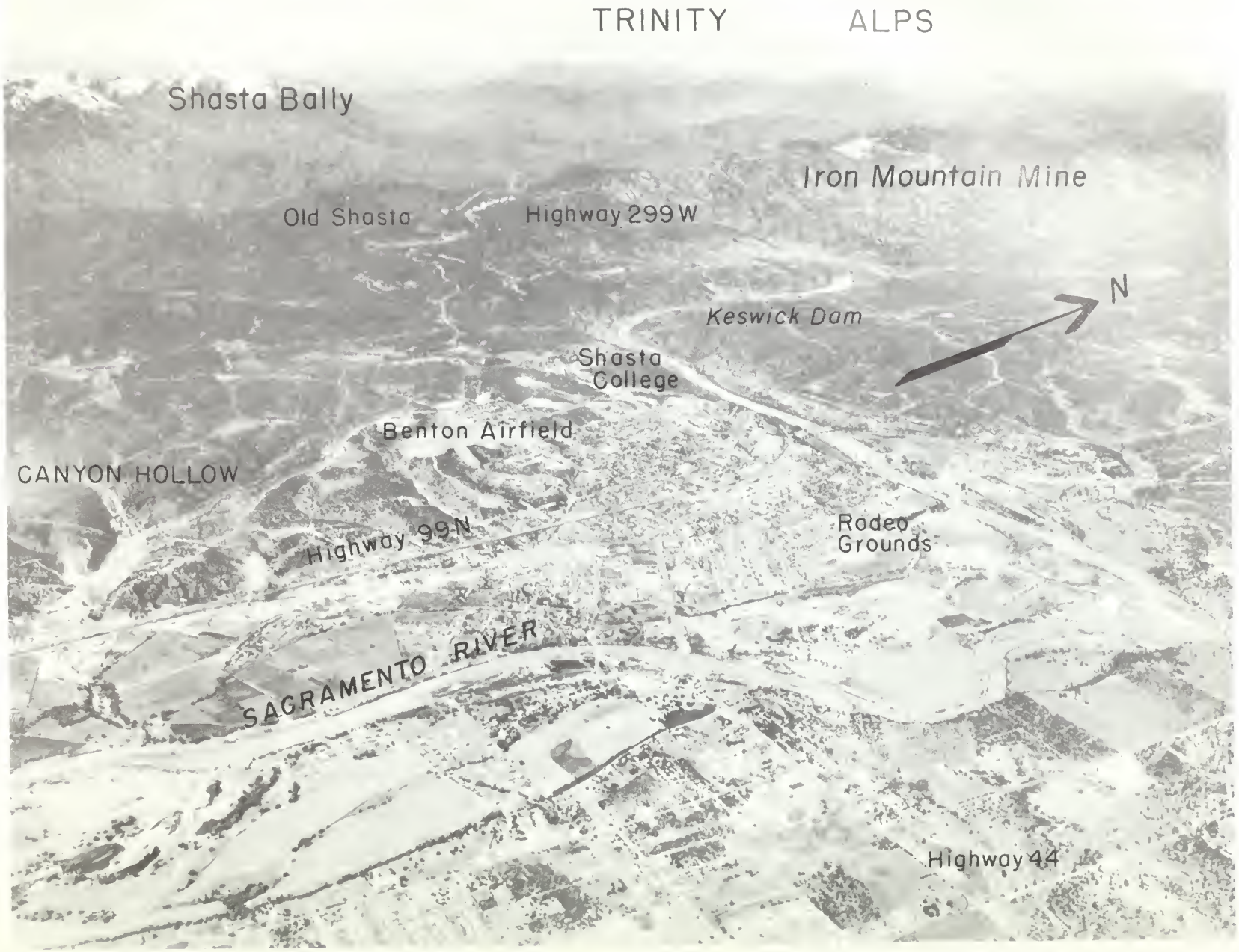
COUNTY REPORT 4

California Division of Mines and Geology

San Francisco, 1965

With sections on Limestone, by Q. A. Aune; Phosphate, by P. A. Lydon; Rock Products, by H. B. Goldman; and an Introduction to the sections on Asbestos, Barite, Chromite, Copper, Manganese, and Quicksilver, by Fenelon F. Davis

STATE OF CALIFORNIA, THE RESOURCES AGENCY, DEPARTMENT OF CONSERVATION, DIVISION OF MINES AND GEOLOGY



Frontispiece. Aerial photograph showing the town of Redding and the Trinity Alps.

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FOREWORD

The author, J. C. O'Brien began work on this report during the fiscal year 1953-54. Thereafter, mine visits were made annually during each field season until August 1957 when the last visits to properties were made. Unless otherwise indicated in the tabulated list, the mine ownership data are not later than 1957. The field data were assembled and submitted for supervisorial review in August 1959. In October 1959, after 27 years of service with the Division of Mines, the author retired.

By this time a reconnaissance geologic study of the Northern Coast Ranges and Klamath Mountains of California had been completed and it was deemed desirable to include the results of this study in the Trinity County report in summary form. To this end the geologic section of the Trinity County report was rewritten by S. J. Rice and F. F. Davis and a county geologic map was adapted to accompany the discussion. This work, including a review and preliminary revision of the report were completed in 1960.

The expanded geologic discussion called for a more complete mine map than had been previously thought necessary. The mine map and the tabulated list of mines were therefore revised to include mines which had not produced for many years and prospects which at one time were considered worthy of notice. These additions were completed during the first half of 1961 by P. A. Lydon in Redding, who by virtue of his accessibility to the area was able to check many of these mine locations in the field. The sand and gravel and stone sections were up-dated by H. B. Goldman who supplied information developed during the recently completed Trinity Dam and related projects. The limestone section and the information on limestone deposits which appears in the tabulated list were prepared in March 1964 by Quintin A. Aune of the Division's Redding office from field data he collected in the course of his work on a statewide limestone study.

With these additions the report was considered completed and the manuscript was submitted for publication in March 1964.

FENELON F. DAVIS, Geologist
California Division of Mines and Geology
March 31, 1964

ABSTRACT

Trinity County occupies an area of about 3,100 square miles in northwestern California. About three-fourths of the county lies within the rugged Klamath Mountains province, which includes nearly the entire drainage basin of the Trinity River and its branches. In this province, streams have carved deep, steep canyons and except in the Hayfork area and in the northeastern part of the county, there is little level land suitable for farming.

Rocks range in age from late Pleistocene or Recent(?) terraces in the Minersville area to the pre-Silurian(?) metamorphic rocks which trend northwestward through the central portion of the county. These complex rock formations were compressed, folded, faulted, uplifted and, near the close of the Jurassic period, intruded by masses of serpentine, diorite and granodiorite, a combination of circumstances especially favorable to the formation of mineral deposits.

The ridge of South Fork Mountain separates the Klamath Mountains province from the Northern Coast Ranges in the southwestern part of Trinity County. The latter portion of the county is made up of folded and faulted Mesozoic sedimentary rocks, mostly sandstone, shale, and chert of the Franciscan formation with only a few outcrops of serpentine showing.

The gold placer mines along the Trinity River and its tributaries have been the chief source of mineral wealth in Trinity County. Gold was first mined at Redding Bar near Douglas City in 1849. The pioneer miners recovered the gold by panning or shoveling the gravel into rockers and short sluice boxes. Later, water was brought through miles of ditches, flumes and tunnels to the hydraulic mines which flourished without restriction for many years. Bucketline dredging started at Trinity Center in 1901 and except for the war years, dredging was continued until the Fairview Placer dredge was shut down in April 1958. Lode gold was first mined from claims in the Deadwood district in 1875. Quicksilver is next to gold in the total value of mineral products in Trinity County. The first quicksilver was recovered in the sluice boxes of the gold placer miners working in the gulches below the Altoona mine. The Altoona mine was located in 1871 and had a production of over 31,000 flasks by 1913. It has been operated intermittently by lessees since 1901.

Although gold and quicksilver have been the principal minerals produced in Trinity County, substantial amounts of chromite, copper, manganese, platinum, and silver also have been produced. Since 1956, miscellaneous stone and sand and gravel have been the chief mineral products reported. The total value of minerals produced from 1880 to 1962 inclusive amounts to $59,426,238. The completion of the Trinity River Project, the improvement of roads, and the growth of population in northern California should make it possible to mine deposits of minerals that were unprofitable to exploit in former years.

MINES AND MINERAL RESOURCES OF TRINITY COUNTY, CALIFORNIA

By J. C. O'BRIEN, et al.

Introduction

Trinity County, one of the original 27 counties created February 18, 1850, by the State Legislature, includes an area of 2,042,240 acres in northwestern California. It is bounded on the north by Siskiyou County, on the east by Shasta and Tehama Counties, on the south by Mendocino County, and on the west by Humboldt County. About three-fourths of the land area is within the Trinity National Forest and additional large areas are included in the Shasta and Mendocino National Forest and in two primitive areas known as the Trinity Alps and the Yolla Bolly-Middle Eel Reserve. It is a land of great scenic beauty with many rugged peaks, wooded mountains and swift streams. The Coast Range mountains in the southwest area occupy about a fourth of the county and the Klamath mountains encompass the remainder.

The Trinity River, from which the county is named, was discovered by Major Pierson B. Reading in May, 1845, while on a trapping expedition. He believed the river flowed into Trinidad Bay as was shown on an old Spanish chart. In July, 1848, Major Reading discovered gold on the Trinity River at the mouth of Reading Creek at what is now called Reading Bar. By the end of 1852, the Trinity River and its tributaries had been pretty well prospected, and the placer miners had established many villages. Trinity Center was one of the supply centers and a stage depot on the old California-Oregon Trail. Weaverville, the county seat and largest town, has a colorful history dating back to the gold rush days.

The first mining was done with a pan, rocker, or short sluice box. Dams were built to divert streams and enable portions of their beds to be worked. Later, water was brought through miles of ditches and flumes and directed under pressure through pipes and hydraulic giants against gravel banks. Gold was recovered by riffles in sluice boxes. In Oregon Gulch, a few miles west of Weaverville, the famous La Grange hydraulic mine operated from 1851 until 1942 and was the largest hydraulic mine in the world for many years. The first bucketline dredge in Trinity County started operation on the Trinity River near Trinity Center in 1901, and in 1936, the first dragline and its floating washing plant was used to work small areas where the cost of installing a bucketline dredge would not be justified.

The Altoona quicksilver mine was discovered about about 1875 and a large amount of quicksilver was produced before mineral statistics were first compiled by the State Mining Bureau in 1880. Gold quartz mining received little attention before 1880, but about that time the Brown Bear, Henry Clay, Venecia, and other mines of the Deadwood district were located.

Gold mining had always been the county's principal industry until the advent of the Federal Government's edict against gold mining in October 1942. Since then, only a few small scale hydraulic operations have worked intermittently and in 1957, only one bucketline dredge remained in operation. Lumbering has surpassed mining in economic importance, and the income from tourists and sportsmen attracted by the natural beauty of the mountains, lakes, and streams and the excellent fishing and hunting, is considerable.

The forests of Trinity County provide an annual cut of more than 300 million board feet valued at more than seven million dollars. Because of its topography, only a small part of Trinity County is suitable for agriculture, but in 1955 there were 238 ranchers. Much alfalfa, hay and clover is grown. Beef and dairy cattle are the principal livestock raised but sheep, swine and poultry are gaining in importance.

The Trinity River enters the northeastern corner of the county at an altitude of 6,200 feet above sea level, flows southwestward to Douglas City where the altitude is 1,641 feet, and then northwestward to its confluence with the South Fork at Humboldt County line where the altitude is 553 feet. Mountains rise steeply on both sides of the river along its meandering course and the valleys seldom exceed a few hundred feet in width. The principal tributaries of the Trinity River are Coffee Creek, East Fork, Stuart Fork, Canyon Creek, North Fork, New River, and South Fork. Many lesser streams and creeks flow into both the main river and its tributaries.

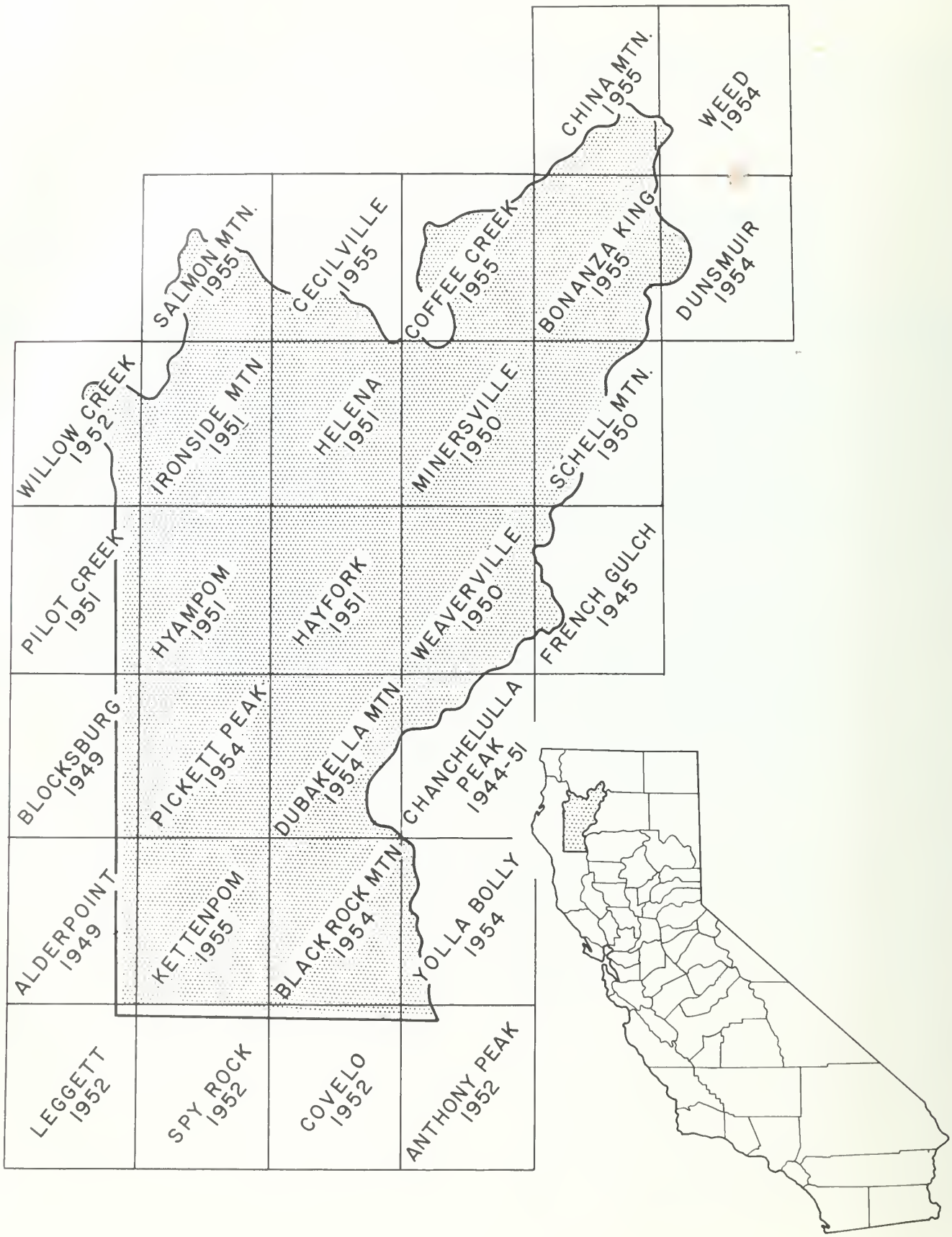


Figure 1. Index map showing the locotion of Trinity County in California, and the topographic maps covering the county.

The principal rivers in the Coast Range area are the South Fork of the Trinity, the Mad, the Van Duzen, and the Eel, all of which flow northwestward in roughly parallel courses. The Coast Ranges are not as high as the Klamath Mountains, but they also are rugged and there are few valleys of any considerable width.

The Northwestern Pacific Railroad line from San Rafael to Eureka crosses the southwestern corner of Trinity County, following the Eel River for a length of about 12 miles within the county. It is the only railroad in Trinity County, but a daily bus service is available along highway 299 West from Redding to Eureka. Highway 299 West passes through Douglas City, Weaverville, and Junction City and follows the Trinity River from Junction City through Helena, Big Bar, Del Loma, Burnt Ranch and Salyer and continues through Humboldt County to join Highway 101 on the Coast. A system of county roads connects Highway 299 with Hayfork, Lewiston, Minersville, Trinity Center and other smaller communities. Less travelled highways extend from Red Bluff, in Tehama County, through Wildwood, Peanut, Forest Glen and Mad River, and westward from Highway 99 at Delta to Trinity Center. Minor dirt roads follow the principal streams into the mountains and serve as access roads to forests and mines. A commercial air service is operated between Redding, Hayfork, Ruth, Trinity Center and Weaverville.

The population of Trinity County has varied considerably through the years. When the placer mines closed down, some of the placer miners left the county, but others turned to mining chromite, lode gold, manganese or quicksilver. Many found employment in the lumber industry. The 1950 census gave Trinity County a population of 5,087, an increase of 2,287 since 1930.

The climate of Trinity County is typical of a mountainous region with altitudes ranging from 553 feet to 9,038 feet. The annual precipitation ranges from 30 to 80 inches, and the snowfall is heavy in the higher altitudes. The Weaverville station at an altitude of 2,047 feet has an average annual precipitation of 35.84 inches, and the temperature ranges from a monthly average of 37.2 degrees in January to an average of 71.3 degrees in July. The average annual temperature is 53.2 degrees, but extremes varied from 3 degrees below zero to a maximum of 113 degrees.

Congress has authorized the expenditure of 225 million dollars for the Trinity River Project, a multipurpose plan to impound waters from the Trinity River in a reservoir by building a dam across the river near Lewiston. Surplus water will be diverted through a series of tunnels into a reservoir above Keswick Dam on the Sacramento River. Four power plants, with a combined output of 218,000 kilowatts, will be built. Work on the Trinity River Project was started in 1956 and the large, earth-fill Trinity Dam was completed late in 1960.

Geology

The geomorphic map of California shows that Trinity County lies in portions of two geomorphic provinces, and these are in sharp contrast with each other in topography, geology and mineral resources. The northeastern part, covering about two-thirds of the county area, is in the Klamath Mountains province where flat-topped ridges and glaciated peaks rise to elevations of from 6,000 to nearly 9,000 feet. The regional drainage is westward, generally transverse to the northwestward structural trend of rock in the province. The southwestern part of the county is in the Coast Ranges province and the highest elevation is about 6,800 feet. The drainage here is generally northwestward, concordant with the structural trend of the rocks. The great ridge of South Fork Mountain, trending N. 30° W., marks the division between the two provinces in the County.

In addition to differences in drainage patterns, the separation of these provinces is based on facts that the principal rock units of the Klamath Mountains are older than Cretaceous and are intruded by granitic rocks, whereas those of the Coast Ranges are mostly latest Late Jurassic and Cretaceous in age and are not intruded by granite. Many rock units of both provinces have been invaded by ultramafic intrusives and some of the latter have subsequently been altered to serpentine.

The nature and distribution of the geologic formations in and surrounding Trinity County has been described in considerable detail by W. P. Irwin (1960) in California Division of Mines Bulletin 179, *Geologic Reconnaissance of the Northern Coast Ranges and Klamath Mountains, California*, which is the basis for this summary. Proceeding westward through the Klamath Mountains province along Highway 299, four concentric belts of rocks, concave eastward, are encountered.

First is the Eastern Paleozoic belt, about 5 to 8 miles wide, consisting of rocks ranging in age from Mississippian to Devonian. The Bragdon formation of Mississippian (?) age consists of a well-bedded sequence of shale, sandstone, siltstone and conglomerate as much as 6,000 feet in total thickness. In

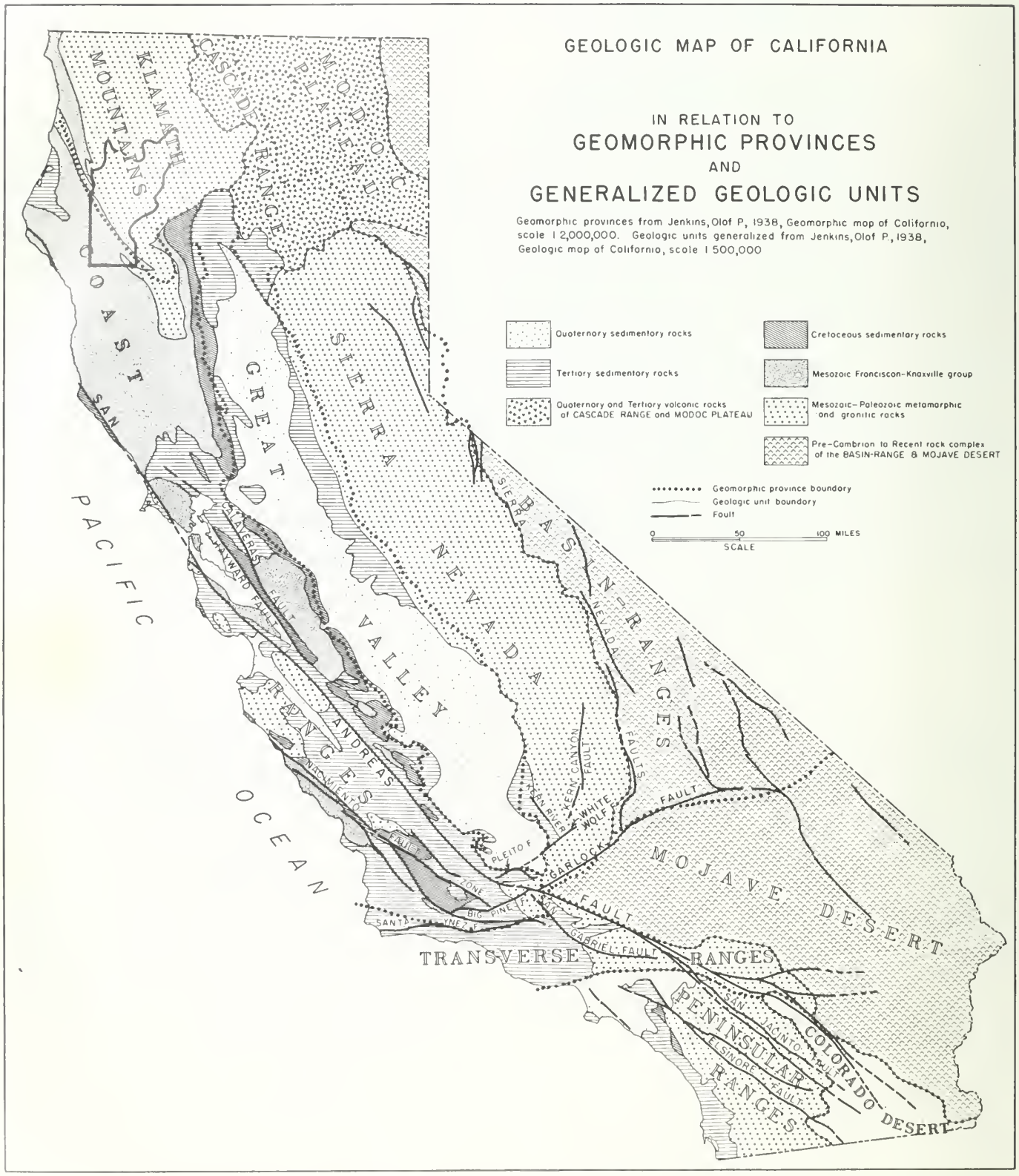


Figure 2. Geologic map of California, showing geomorphic provinces and outline of Trinity County.

Photo 1. Weaver Bolly Mountoin, the south end of the Trinity Alps. View northwest from the southern outskirts of Weaverville. *Photo by William P. Irwin.*

eastern Trinity County the Bragdon formation rests unconformably on the Copley greenstone which crops out as windows through the Bragdon. The Copley greenstone consists of interbedded volcanic rocks with some chert and shale. The flows, tuffs and agglomerates were largely andesite and basalt, but westward from the Redding area, the Copley greenstone is progressively metamorphosed to albite-chlorite rock, amphibolite, hornblende gneiss and migmatite (Kinkel, Hall and Albers, 1956). The Copley is believed to be middle Devonian in age and its base is not exposed in the area.

Second is the Central Metamorphic belt, about 12 miles wide, consisting of the Salmon and Abrams formations of pre-Silurian age, considered the oldest formations in northwestern California. The Salmon formation contains hornblende and chlorite schists formed from basic volcanic flows and pyroclastic rocks and is believed to conformably overlie the Abrams formation. The latter formation consists of gray quartz mica schist with interbeds of quartzite and marble and is 1,000 feet thick at its type locality in upper Coffee Creek. The appreciable thickness of quartzite in the Abrams formation along the Stuart Fork is attributed to the metamorphism of chert and clay. Local zones of hornblende schist may represent metamorphosed basic volcanic intrusives of the Salmon formation. These two formations may represent metamorphic facies of adjacent, less severely metamorphosed Paleozoic rocks.

Third is the Western Paleozoic and Triassic belt about 20 miles wide, consisting of slightly metamorphosed shales and sandstones (slates), cherts, greenstones and limestone including the Chanchelulla formation. Slate and chert are the two most abundant rock types. Long lenses of limestone have been noted near Hayfork Valley and Junction City. A re-examination of fossils collected by early workers, plus new data, indicates that rocks in this belt previously considered middle Paleozoic are really late Paleozoic and Triassic in age.

Fourth is the Western Jurassic belt of rocks and includes the Galice formation of middle Late Jurrasic age as well as the Weitchpec and Kerr Ranch schists and schists of South Fork Mountain. These schists are now considered to be metamorphic equivalents of the Galice formation of Oregon. These were largely detrital sedimentary rocks, sandstones, shales, and some conglomerate, but are now largely metamorphosed to slates and phyllite. In the northeastern part of the Willow Creek quadrangle, slates and phyllites appear to be over 2500 feet thick. The western border of this belt, marking the limit of the Klamath Mountains province, consists of a narrow band of schist which has been traced from South Fork Mountain to Weitchpec. These rocks usually are dark gray quartz sericite schists, but occasional green schists are encountered. Between Weitchpec and Hoopa Valley in Humboldt County these schists grade into slates and phyllites of the Galace formation.

Exposed in the Coast Ranges province in the southwest one-third of Trinity County are rocks of the Franciscan formation consisting of marine sandstones (graywacke), shale, some conglomerate, alternating thin beds of chert and shale, sparsely distributed thin lenses of limestone, volcanic rocks consisting of andesite, basalt, and pyroclastics of similar composition (now largely altered to greenstone), and limited quantities of blue glaucophane schist. These rocks are generally sheared and deformed, and have often been invaded by mafic and ultramafic intrusives now commonly altered to serpentine. The rocks of the Fran-

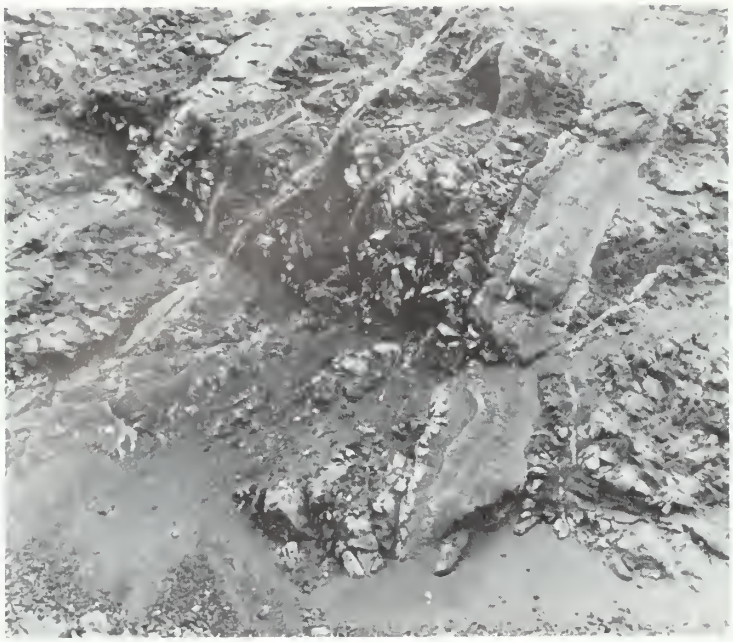


Photo 2. Composite dikes of quartz diorite and associated rocks intruding contact metamorphosed Copley Greenstone(?) along the west side of the Shasta Bally batholith in the Weaverville quadrangle. *Photo by William P. Irwin.*

Summary of the geology of Trinity County.

Era	Period	Formations	Rock type	Mineral deposits
Cenozoic	Recent	Alluvium	Sand and gravel, clay	Brick clay, sand, gravel, gold, silver, platinum
	Pleistocene	Terrace gravels of the Trinity River and its tributaries	Boulders, pebbles, gravel and sand	Placer gold, silver, platinum, sand and gravel
	{Oligocene {Eocene (?)	Weaverville formation	Slightly consolidated boulders, gravel, sand, clay, and tuffaceous sediments	Coal, gold, platinum
Paleozoic—Mesozoic	Cretaceous	Shasta series	Marine conglomerates, sandstone, gray shale	Coal, gold
	Cretaceous to latest Late Jurassic	Intrusive rocks, Franciscan formation	Granitic and ultrabasic rocks (peridotite altered to serpentine); sandstone, shale, conglomerate, chert, lenses of limestone, volcanic rocks altered to greenstone, glaucophane schists	Asbestos, chromite, copper, gold, granite, lead, manganese, quicksilver, tungsten
	Middle Late Jurassic	Gallice formation; Weitchpec and Kerr Ranch schists	Slate and phyllite; quartz sericite schist and green schist	Slate, gold
	Triassic to Permian	Slate series; Chanchelulla formation	Slate and chert; long lenses of limestone, greenstone; schist, quartzite, metaconglomerate, marble	Limestone, marble, gold
Paleozoic	Mississippian (?)	Bragdon formation	Thin-bedded slaty shales, dark gray sandstone and conglomerates with quartz and chert pebbles	Gold, silver, lead
	Middle Devonian	Copley greenstone	Principally mafic flows and pyroclastics with minor amounts of shale and tuffs	Gold, silver, copper, pyrites, stone
Paleozoic—Pre-Paleozoic (?)	Pre-Silurian, possibly Pre-Cambrian	Salmon formation	Schistose basic volcanic rocks, commonly greenish in color with a silky luster	Gold
		Abrams formation	Micaceous quartz schists to quartzites, pink or red on weathered surfaces	Marble

Photo 3. View northwest toward Bully Choop Mountain (with lookout on top), showing blocky outcrop of Bully Choop ultramafic mass. *Photo by William P. Irwin.*

ciscan formation are now considered to range from latest Late Jurassic to Late Cretaceous in age. In the southeastern part of the county the Franciscan rocks are flanked on the east by a wedge of slates and phyllites tentatively correlated with the Franciscan formation.

Relatively small erosional remnants of marine conglomerate and shale of the Shasta series of Cretaceous age rest on the older rocks southeast of the Weaverville-Hayfork area.

Small areas of nonmarine sedimentary, gently dipping rocks of Eocene or Oligocene (?) age overlie the older rocks in the vicinity of Weaverville, Hayfork, Hyampom and at a few other localities. These rocks have been termed the Weaverville formation and consist of fine-grained detrital rocks, lignite beds, tuff, and conglomerate. Thickness of this formation ranges from a few feet to 2,000 feet.

Granitic rocks ranging in composition from granite to diorite are exposed over many square miles

Photo 4. Bald outcrops of Permian(?) limestone of the western Paleozoic and Triassic belt, exposed along Hayfork Creek near China Gulch in the northeast part of Dubakella Mountain quadrangle. *Photo by William P. Irwin.*

throughout the county, and are found in nearly all areas of stratified pre-Cretaceous rocks. An eastern chain of granitic rocks is distributed irregularly through the central metamorphic belt of rocks. This chain extends in a northerly direction from the Shasta Bally batholith (at the junction of Highway 299 and the eastern border of Trinity County) to the northeast corner of the county. Northwest of Hayfork Valley a long narrow body of granitic rock extends 50 miles northwestward beyond the county boundary to Ironside Mountain. These rocks are chiefly hornblende diorite, in contrast to those in the eastern chain which are mainly quartz diorite and granodiorite.

Ultramafic rocks are most widely distributed in the northeast corner of the county, where they are intruded by granitic rocks; but they also occur as discontinuous chains along the eastern and western margins of the Western Paleozoic and Triassic belt of rocks and as small bodies in the Coast Ranges province. Peridotite is the most common rock type, and though mostly altered to serpentine still contains relic textures of the original rock. Soil developed from weathering of the ultrabasic rocks is easily identified by its reddish-brown color. These rocks occur as tabular bodies and are believed to be sills or intrusives along fault zones. It is also believed that in the Klamath Mountains province the intrusion of ultramafic rocks preceded that of the granitic rocks, but that both were emplaced during the same time interval.

The geologic structure of the area is quite complex and the details remain to be worked out. The regional strike is northwestward in the southern part of the county, gradually changing to northward along the northern boundary and is northeastward in the northeast corner, accentuating the arc-like pattern of the rock outcrops. The regional dip is eastward and the boundaries between the principal belts of rocks are believed to be eastward dipping reverse faults resulting from forces acting westward. The boundary between the Coast Ranges and Klamath Mountains provinces is a steep reverse fault which is nearly parallel to those of the San Andreas fault system of central and southern California.

Mines and mineral resources

The total value of mineral commodities produced in Trinity County from 1880 to 1962 inclusive and recorded in the accompanying table amounts to $59,426,238. There is no record of the production of gold or silver from 1848 to 1880, but it must have amounted to several million dollars for some of the early placers were very rich. The value of the quicksilver produced prior to 1880 has been estimated at $458,381. Gold, quicksilver, silver, and platinum have been the principal minerals mined, but commercial production has been recorded for fifteen mineral commodities to date.

ASBESTOS

"Asbestos" is a term applied to several naturally occurring fibrous minerals. Two principal mineral varieties are recognized, chrysotile asbestos and amphibole asbestos. Chrysotile is the most important mineral commercially and its silky, flexible, tough, pale green fibers can be separated into a white fluffy mass. Chrysotile usually occurs as short, thin, discontinuous, cross-fiber veinlets which branch, pinch out and form rectangular stockworks enclosing barren rock. Chrysotile veinlets are found in all serpentine masses but usually not in quantities sufficient to constitute ore bodies.

All asbestos minerals other than chrysotile are members of the amphibole group. Tremolite is the most common mineral and has long coarse, weak, whitish fibers which can usually be easily bent or broken by the fingers. Tremolite occurs as slip fiber veins in shear zones and most of the commercial deposits are found in serpentine.

Ultramafic rocks such as peridotite and dunite, altered to serpentine, are abundant in Trinity County. A look at the geologic map shows two belts of these rocks trending northwestward through the central part of the county and an intense concentration of them in the northeast corner.

Chrysotile asbestos was mined in 1930 from serpentine at the Jones Brothers deposit in sec. 7, T. 37 N., R. 7 W., M.D., about a mile north of Carrville. Averill (1941, p. 16) reported that the fiber varied in length from a quarter of an inch to two inches with an average of three-quarters of an inch. Deposits of amphibole have been found in several localities and production was reported from the Eldenlou Group in the Altoona district.

Although total production of asbestos in Trinity County has been small the serpentine areas remaining to be explored are so extensive that the potential for new discoveries is very good.

Eldenlou Group. Location: sec. 19, T. 38 N., R. 6 W., M.D., about 3 miles west of the Altoona quicksilver mine. Ownership: G. R. Swenson and wife of Castella, California, and A. J. Nelson and wife of Mount Shasta, California.

Five claims were located on which tremolite occurs in fissures and lenses in serpentine. The claims have been prospected by shallow pits which expose lenses of tremolite 7 to 30 inches wide. In July 1944 about a ton of material was mined from the various exposures and the fiber recovered by washing through a short sluice box. The fiber was sacked and shipped to Baltimore, Maryland, where it was used in the manufacture of acid-type filters. There has been no production recorded since 1944.

Jones Brothers Mine. Location: sec. 7, T. 37 N., R. 7 W., M.D., 1 mile north of Carrville and a quarter of a mile west of the Coffee Creek bridge. Ownership: Southern Pacific Company, 65 Market Street, San Francisco.

The property is in the southeastern portion of a large serpentine body, the eastern edge of which is in contact with gabbro. Green chrysotile asbestos occurs in irregular fractures in dark green, greasy appearing serpentine. Fiber length of the mined asbestos ranged from a quarter of an inch to 2 inches, and averaged three-quarters of an inch. There was little fiber visible on the property in 1956.

Two claims, the Chrysotile and Chrysotile No. 1, were worked under lease in 1930 by the Jones Brothers Asbestos Supply Company. Five men handcobbed the asbestos from rock taken from an 8- by 20-foot open cut seven feet deep. Two tons of asbestos were shipped during the operation, and, in 1930, five tons of sacked fiber were stockpiled on the property. A 100-foot adit driven just below the open cut showed nothing but serpentine. The property was idle prior to 1941, and has not been worked since.

Red Mountain Claims (Virginia Bruce Nos. 1 to 13). Location: sec. 33, T. 26 N., R. 12 W., and sec. 5, T. 26 N., R. 12 W., M.D., two miles north of the Travis Ranch and about 12 miles southeast of Hoaglin Station. Ownership: B. L. Codding and G. L. Carrico, c/o Bar Z Ranch, Covelo, California.

Asbestos occurs in a sill-like extension of an intrusive mass of ultrabasic rock the composition of which includes dunite, peridotite, and pyroxenite. Dunite and peridotite are largely altered to serpentine.

Mineral production of Trinity County, 1875-1962.

Year	Chromite		Copper		Gold Value	Manganese		Quicksilver		Silver Value	Platinum Value	Miscellaneous stone, sand and gravel [1]		Miscellaneous and unapportioned	
	Long tons	Value	Pounds	Value		Long tons	Value	Flasks	Value			Short tons	Value	Value	Substance
Altoona Mine before 1875 (estimated)					[5]			1,000	$88,000	[5]		[6]			
1875								1,500	126,425						
1876								1,979	87,076						
1877								1,317	49,129						
1878								1,534	50,469						
1879								1,919	57,282						
1880					$326,693			245	7,595	$142					
1881					550,000					1,500					
1882					600,000										
1883					400,000										
1884					529,150					334					
1885					338,148					10					
1886					464,726					219					
1887					553,051					924					
1888					589,000					500					
1889					811,632					640					
1890					1,192,790			240	12,600	259					
1891					1,327,787					2,249					
1892					1,446,603					168					
1893					1,122,995										
1894					1,012,666					325				$5,000	Granite
1895					1,166,745			3,926	137,410	1,257					
1896					1,296,330			4,205	139,035						
1897					1,078,372			838	29,330	259					
1898					859,255			4,032	151,200	314					
1899					590,510			3,076	123,624	1,086				375	Granite
1900					571,605			2,294	105,982	7,935				4,535	Granite
1901			4,838	$761	684,683			1,302	58,668	[2] 1,240				5,500	Granite
1902					719,992			240	10,251	550	$468			75	Granite
1903					607,728			266	11,156	2,085	200				
1904					574,814			[7] 102	3,864	135	275				
1905					690,844			389	13,917	3,044	450				
1906					560,843			166	6,059	2,981	130				
1907					535,316			98	3,739	2,399					
1908					602,944			90	3,808	4,269					
1909					520,246			197	7,915	2,302				111,307	(1900 to 1909)
1910					500,851			133	5,622	1,960					
1911					612,149			44	2,024	6,777					
1912					723,503			18	758	7,494			$2,000		
1913					431,862			4	161	2,119				245	Mineral water
1914					743,512			[4]	[4]	3,374	151				
1915					441,846			[4]		3,470	435		900	52,860	Other minerals
1916		[4]	[4]		435,493	[4]		[4]		7,591	5,161		1,000	397,316	Chromite, copper, manganese, mineral water, quicksilver
1917	242	$6,325	[4]		602,048	[4]		[4]		10,021	3,283		7,718	358,477	Copper, manganese, mineral water, quicksilver
1918	1,814	75,660	[4]		444,729			[4]		6,912	3,136		1,513	175,574	Copper, mineral water, quicksilver
1919			[4]		538,494			[4]		3,872	[3] [4]		11,839	17,444	Copper, mineral water, platinum, quicksilver
1920					541,387			[4]		3,469	6,612		8,799	1,838	Other minerals
1921					437,993			[4]		1,390	3,260	[4]		14,239	Quicksilver, miscellaneous stone
1922			[4]		182,918					2,432	1,223		5,677	5,687	Other minerals
1923			329,706	48,467	617,841					5,816	2,050		3,000		
1924			550,000	72,050	422,281					10,934	1,839		2,240		
1925			439,766	62,447	424,037					7,724	3,081		5,000		
1926			760,140	106,420	483,471					13,276	2,832		1,798	4,000	Other minerals
1927			770,882	100,986	409,492					12,326			32,050	800	Other minerals
1928		[4]	660,142	95,060	402,694					12,258	[4]		12,084	8,084	Chromite, platinum
1929		[4]	615,579	108,342	352,029			[4]		10,269			41,867	13,367	Chromite, coal, quicksilver
1930			588,574	76,514	330,003			[4]		6,700	[4]		4,238	19,878	Asbestos, coal, platinum, quicksilver
1931					292,031			[4]		532	993		20,246	14,720	Coal, quicksilver
1932					294,297			[4]		608	473		17,160	12,737	Coal, lead, quicksilver
1933					345,851			[4]		768	[4]		2,375	10,509	Coal, lead, platinum, quicksilver
1934			359	29	574,681			[4]		1,640	[4]		62,522	11,748	Coal, platinum, quicksilver
1935			[4]		727,787			[4]		2,506	[4]		3,803	11,090	Coal, copper, lead, quicksilver
1936			[4]		708,715			[4]		2,251	[4]		7,867	5,276	Coal, copper, lead, platinum, quicksilver
1937					703,780			[4]		2,099	7,052			8,359	Coal, quicksilver, miscellaneous stone
1938					1,451,345			[4]		2,992	[4]		36,456	2,339	Coal, platinum
1939			[4]		1,488,550			[4]		3,176	[4]		16,177	7,048	Copper, platinum, quicksilver
1940			[4]		1,730,155			[4]		4,222	[4]	[4]		37,950	Copper, lead, platinum, quicksilver, miscellaneous stone
1941		[4]	[4]		1,500,870					3,408			20,722	31,365	Chromite, copper, coal, lead, manganese ore, platinum, quicksilver
1942		[4]	[4]		846,895	[4]		[4]		2,001			30,885	173,661	Chromite, copper, lead, iron ore, manganese ore, platinum, quicksilver
1943		[4]			31,115	[4]		[4]		64	[4]		51,389	240,555	Asbestos, chromite, coal, manganese ore, platinum, quicksilver
1944		[4]			19,250	9,753	$367,960	[4]		40			13,340	115,475	Chromite, coal, quicksilver
1945					63,840	[4]		[4]		128		[4]		27,592	Coal, manganese ore, quicksilver, miscellaneous stone

1946		(4)		488,670				1,154	(4)	22,715	2,344	Coal, copper, platinum, quicksilver
1947		(4)		486,675				(4)			74,880	
1948				277,550				915	(4)	32,545		
1949				113,330				383		153,864		
1950				263,585	(4)			612		3,046	7,237	Manganese and stone
1951		3,200	774	271,985				748		35,137		
1952		(4)		237,790	(4)			600			60,071	Chromite, manganese ore, sand and gravel, miscellaneous stone
1953	213	22,251		199,395	583	43,055		529		43,656		
1954	502	35,463	10,800	214,410	273	31,991		590		81,639	35,485	Other minerals
1955				248,675	(4)		(4)	686		55,351	141,584	Manganese ore (35% Mn), mercury, stone (crushed)
1956	40	3,487	(4)		507	44,722	(4)		(4)	209,559	228,767	Copper, gold, mercury, silver
1957		(4)	(4)				(4)		(4)	1,982,312	137,078	Chromite, copper, gold, mercury, silver
1958				51,975					153	2,548,325	81,627	Other minerals
1959				2,520					7	643,320	815,442	Other minerals
1960				(4)					(4)	694,235	254,623	Gold, mercury, sand and gravel, silver, volcanic cinders
1961				3,570					8	289,221	53	Gemstones
1962				2,695					13	200,551	12,740	Other minerals
Totals	2,811	$143,186	4,733,986	$675,036	$46,046,088	11,116	$457,728	31,154	$1,293,099	$210,143	$43,104	6,948,598	$6,768,893	$3,758,961
Grand total														$59,426,238

(1) Includes crushed rock, rubble.
(2) Recalculated to "commercial" from coining value.
(3) The metal contained in the 1919 product was 38% iridium and 62% platinum.
(4) See under unapportioned.
(5) No county segregated figures for gold and silver available for years earlier than 1880.
(6) The quantity of Miscellaneous Stone, Sand and Gravel was not reported earlier than 1948.

The northern part of the ultrabasic rock mass is about 2½ miles long and one mile wide; a sill-like extension strikes south for about 2½ miles and is about a quarter of a mile wide. The ultrabasic rock intrudes a sequence of metamorphic rock consisting of metamorphosed sandstone, shale, conglomerate, and chert.

Veinlets of asbestos occur principally in shear fractures in serpentine, and are more abundant on the surface than internally. The average length of chrysotile fiber is about a quarter of an inch, although a small proportion attains a length of half an inch. Asbestos-bearing serpentine is sporadic in distribution and generally occurs in small deposits. One of the larger deposits, about 10 by 150 feet in plan, contains about 2 percent of fiber averaging a quarter of an inch and not exceeding half an inch in length (Wiebelt and Smith, 1959, p. 45). One exploration trench exposed 50 feet of hard serpentine containing chrysotile fibers up to half an inch long, with an asbestos content that locally reached 10 percent.

The property consists of thirteen claims that were located in 1949 and 1950. It has been explored by surface stripping and excavation of numerous trenches.

Trinity River Prospect. Location: NW¼ sec. 6, T. 39 N., R. 6 W., M.D., on the northwestern side of the Trinity River (continuing to some extent into adjacent sections owned by the Southern Pacific Co.). Access is via 4 miles of recently constructed road from the Trumble Ranch on the Trinity Center–Callahan road.

The asbestos, cross-fiber chrysotile in massive dark-green serpentine, occurs concentrated in a zone at least about 200 feet wide and 800 feet long on the northwest side of the Trinity River. Exploration to date consists of three bulldozer cuts on the steep mountainside.

Fiber lengths range up to half an inch or more, although veinlets less than an eighth of an inch predominate. The fiber content of the rock within the potential ore body appears to average 5 to 10 percent, but is locally much higher. Potentially commercial (personal communication, Salem J. Rice).

BARITE

Barite, barium sulfate, is a white to gray, "heavy", inert mineral and the most common compound of the element barium. Although barite is frequently found as a gangue mineral mixed with quartz and calcite in metallic ore deposits and as small pods or veins at isolated localities in the vicinity of granitic rocks, commercial deposits are not abundant. Barite deposits are usually formed by the filling of fractures or the replacement of stratified rocks such as limestone, by solutions associated with the magma that formed intrusive rocks.

Only one commercial deposit of barite is known in Trinity County, the Alwood property near Denny, in the northwest part of the county. This deposit was worked from May to July 1962, and reportedly yielded slightly more than 1,400 tons of barite. It was trucked to Yuba City, where it was processed for use in heavy drilling mud by the Yuba Milling Division of Metals Disintegrating Company.

Barite also occurs as a minor gangue mineral at the Five Pines gold mine (Ferguson, 1914, p. 43), and at the Blue Jay and neighboring manganese properties (Taliaferro and Hudson, 1943, p. 269). A specimen of barite donated to the museum of this Division was reported by Aubury (1906, p. 360) to be from "Hay Fork P.O. (15 miles below)". This locality has not been verified.

Alwood. Location: sec. 32, T. 7 N., R. 7 E., H. About 1 mile southwest of Denny. Ownership: Melvin Alwood, 1458 Dusty Lane, Redding.

This contact-metamorphic deposit was reported in 1957. Barite occurs in a small roof pendant of metavolcanic rocks in diorite. A strong, post-mineralization shear zone strikes north 70° E. The barite is light gray and ranges from a fine- to a coarse-grained mineral, locally containing quartz, garnet, pyrite and stains of iron oxide. Random samples of barite average 4.26 in specific gravity, ranging from 3.91 to 4.40.

The deposit was prospected in 1960-61 and mined with a bulldozer from May to July 1962, yielding 1,400 tons of barite. An open cut trending north-northeast with transverse benches extends for 200 feet and exposes rock to a depth of 25 feet.

The barite was trucked 235 miles to a grinding mill at Yuba City, Sutter County. The ground barite was used as drilling mud to control pressure in wells drilled for natural gas throughout the Sacramento Valley.

CHROMITE

Although about a dozen minerals contain chromium, chromite, $FeCr_2O_4$, is the only ore of the metal. Chromite is usually identified by its shiny black color, brown streak and its heaviness (specific gravity 4.4) compared to ordinary rocks. Chromite is found in peridotite, dunite or serpentine derived from the rocks, where it occurs as dense aggregates of crystals, or as small black grains disseminated through the host rock. Most of the chromite produced in California has been mined from pods or lenses of massive ore of variable size which were sorted before shipment. Reserves of disseminated ore exist but these must be concentrated to increase the chromic oxide content to an acceptable market grade before shipment. Occasionally placer deposits are formed by erosion of the peridotite and serpentine rocks with concentration of the heavier chromite in the alluvium of the adjoining streams. Less frequently, the erosion of massive chromite outcrops develop lumps of hillside float which are collected and shipped directly to market.

Chromite has been mined from many small lenses in serpentine in northeastern Trinity County and in the Eltapom, Forest Glen, Hayfork, Hyampom, Peanut, and Wildwood districts. Most of the material was mined during World War I (1914-18), World War II (1941-45) and the Korean War period (1951-58). These were periods of national emergency when premium prices were paid for strategic minerals. An attempt to concentrate low-grade ore to the acceptable minimum grade of 42 percent chromic oxide (Cr_2O_3) in a small mill at Hayfork in 1955 was not commercially successful.

Crow Creek (Chapman-Kirby, McConnell-Kirby, Mumbo Creek, Munko, Neely, Russell) Mine. Location: sec. 11, T. 38 N., R. 6 W., M.D., about 11 miles west of Castella. Ownership: Southern Pacific Company, 65 Market Street, San Francisco, California. Leased to H. T. and J. Company of San Francisco, California, in 1954.

Chromite occurs in lenses in serpentine. Lump chromite was mined from pods in open cuts and in two adits by Phillip Munko of Dunsmuir in 1943. Some milling grade ore was hauled to a mill at Castella, but the yield was too low to be profitable.

In June 1954, the H. T. and J. Company obtained a lease from the Southern Pacific Company and prospected the deposit with bulldozer cuts. A band of disseminated chromite about 5 feet thick was exposed for about 300 feet in a N. 60° W. direction. The iron content was said to be too high to make a profitable concentrate, so mining was stopped. The deposit is idle.

Photo 5. Looking northeast from Bully Chaop Mountain (alt. 6974) on Trinity-Shasta County boundary, toward Shasta Bally Mountain (alt. 6209) in center of photo. Rocks of Bully Chaop ultramafic mass are exposed on the small prominence in the right foreground. *Photo by William P. Irwin.*

Shasta Lily (Costa, Tiger Lily) Deposit. Location: sec. 14, T. 38N., R. 6W., M.D., about 11 miles west of Castella. Ownership: George Costa, Castella, California.

A ledge of nodular and disseminated type chromite in serpentine crops out for a width of 8 feet and can be traced in an easterly direction for about 100 feet. About 400 tons of ore was mined from this deposit in 1942 by Philip Munko of Dunsmuir. In 1943 C. L. Kalbaugh of Redding mined 1900 tons of milling grade ore which averaged 18 to 20 percent Cr_2O_3, and in 1952 he mined and hauled an additional 900 tons to the milling plant at Castella. The ore was drilled with an electric jack hammer and blasted with powder and fuse. The broken ore was loaded into a truck with an Allis-Chalmers HD-5 bulldozer fitted with a Tractomotive bucket of 1 cubic-yard capacity. Electric power for the drill was supplied by a Westinghouse D.C. generator driven by a Hercules gasoline engine.

Helmke, Thomas, and Jansen of San Francisco secured a lease on this property in 1954 and built a camp to accommodate a small crew. A ledge of chromite 6 to 8 feet wide striking N. 55° E. and dipping 72° SE into the hill was mined and hauled to the mill at Castella. The ore was a good milling grade, but the amount of overburden soon increased to an excessive amount and mining was suspended. The property has been idle since 1955.

Sunny Slope (Cedar Gap, King Kohle, Shamrock, Triangle) Deposit. Location: secs. 14, 15, T. 29N., R. 11 W., M.D., about 3 miles southwest of Wildwood. Ownership: Estate of Liston Ehorn, c/o H. P. Edwards, P.O. Box 328, Red Bluff, California.

A ledge of coarse-grained chromite 14 to 20 inches thick adheres to a serpentine wall which strikes N. 13° W. and dips vertically. It was mined from an open cut in the face of the hill by blasting the serpentine from the chromite. The broken ore was loaded into a steel drum and transported about 900 feet on a wire rope tramline across a creek to the road.

In 1942 the deposit was owned by Ezra A. Collins of Knob, California, and leased and operated by Joe Shafter, of Shasta, California. About 37 tons of ore mined in 1942 averaged 52 percent Cr_2O_3 with a 3 to 1 chrome-iron ratio. The deposit was purchased by Joe Sauer and Fred Kohle of Redding in 1944 and 25 tons of ore were mined. There has been no production since 1944.

In March 1951, the deposit was relocated as the Shamrock claim by Fred Kohle. A ledge of hard, fine-grained chromite about 15 inches wide shows in the face of a cut about 40 feet long and 12 feet deep. The deposit was sold to Liston Ehorn of Red Bluff, California, who built an access road to it. Work was suspended when the owner died in 1954.

Twin Cedars (Empire) Deposit. Location: sec. 32, T. 30 N., R. 12W., M.D., about 6 miles southwest of Peanut, California. Ownership: Leonard G. Taylor and the Estate of John D. Rourke, Hayfork, California. Leased by E. A. Lough, Hayfork, California, in 1954.

Lenses of chromite from a few inches to 18 inches wide were followed by shallow trenching in serpentine for about 200 feet prior to 1941. At that time, a few tons of mined chromite were stockpiled on the property.

A lens of chromite about 3 feet wide in serpentine was exposed in a shallow trench for a length of 18 feet. E. A. Lough of Hayfork was working the deposit alone with hand tools in May 1954 and had about 6 tons of milling-grade ore mined. The property has been idle since 1955.

COAL

Deposits of lignite were uncovered in the creek beds by the early-day placer miners, notably at Big Bar, Cox Bar, and on Hayfork Creek. The coal was used by the blacksmiths in the mining camps for many years. A deposit of lignite interbedded with shale and fine-grained sandstone of Cretaceous age was mined in a small way at Big Bar from 1929 to 1934 and used locally. Other deposits of lignite in Hayfork Valley, Hyampom Valley, near Redding Creek seven miles southeast of Douglas City, and at Poison Camp north of Zenia are thought to be of Eocene or Oligocene age. The development of coal deposits in Trinity County has been greatly handicapped because of the distance to markets and the competition with other fuels and hydroelectric power.

Big Bar Deposit. Location: sec. 5, T. 33 N., R. 12 W., M.D., on the south side of the Trinity River about ½ mile west of Big Bar. Ownership: United States Government.

The existence of this deposit was first noted by J. J. Crawford (1896, p. 56), who reported that a 4½-foot stratum of soft lignite, exposed for about 200 feet along strike, had been uncovered by mining operations at the Wiltshire hydraulic mine. No development work on the coal had been done by World War I, but in 1926, C. A. Logan (p. 13) stated that some short prospect adits had been driven, and that a little of the coal had been used locally for blacksmith work. In succeeding years, beginning in 1929, a few truckloads of coal were trucked to Redding and Eureka; in 1941, however, Averill (p. 21) reported that the mine had lain idle for many years. It has not been worked since.

Seams and beds of lignite are exposed at the base of an auriferous gravel deposit, about fifty feet higher

Phota 6. Southern Trinity County. View southwest fram Weaver Bally Mauntain. Rocks in foregraund are Salmon formation. Trinity River in middle ground follows irregular course downstream to right. Mountains in middle background consist chiefly of racks of the western Paleozoic and Triossic belt. The remarkably uniform horizon is mainly the crest af South Fork Mountoin which consists of schist of low metomorphic grode of probobly Lote Jurassic age. *Photo by William P. Irwin.*

than the Trinity River. The coal beds strike north and dip 30° to 40° W., and are interbedded with shale and fine-grained sandstone. Several seams and beds occur within a stratigraphic interval of 20 feet, but only one bed contains good coal in thicknesses as great as three to five feet. Averill collected some fossils at a locality one mile west of the deposit, and hence stratigraphically higher than the coal. He reports (1941, p. 21) that F. M. Anderson identified them as *Aucella Crassicollis* Keyserling, thus indicating that the beds from which they were collected belong to the Lower Cretaceous Paskenta formation. The coal beds, being stratigraphically lower, might thus belong to the Knoxville formation. Just east of the lignite exposures are outcrops of pre-Cretaceous slate and schist.

Reese Deposit. Location: sec. 32, T. 32 N., R. 9 W., M.D., about 5 miles southeast of Douglas City. Ownership: United States Government. Leased to Reese Brothers of Hayfork, California.

A bed of brownish-black lignite about 8½ feet thick strikes N. 55° E. and dips 12° SE. It is exposed in an open cut for a length of about 150 feet and in a shaft to a depth of 150 feet down the dip. A bed of gray calcareous shale 2 feet thick lies beneath the coal, and there is an undetermined thickness of interbedded thin seams of clay and coal beneath the shale. Interbedded thin seams of clay and coal overlie the coal seam for a thickness of about 15 feet. Analyses of this coal prepared by the U.S. Bureau of Mines and quoted by Averill (1941, pp. 22-23) show that it contains from 14.9 to 20.2 percent ash and from 6850 to 6890 British Thermal Units.

A small amount of coal from this deposit was sold locally and in Redding from 1936 to 1938.

J. M. Beck of Weaverville built a new road to this deposit in 1949 and stripped the overburden from the deposit for a width of about 150 feet. The feasibility of manufacturing briquettes for use in barbecue grills was studied, but no commercial production was made. The deposit is idle.

COPPER

Copper prospects are sparsely scattered through the county where they occur in or near areas of ultramafic rocks, peridotite and serpentine. Although some of the prospects contain pockets of good grade ore, they are generally small and relatively inaccessible. Properties having a small production record are located in the New River, Carrville and South Fork districts.

The principal production of copper ore was from the Island Mountain mine during World War I, when a maximum of 1,000 tons per month was shipped to the smelter at Tacoma, Washington. This deposit is located in the Coast Ranges province in the southwest corner of the county. It occurs as a sulfide replacement deposit along a shear zone in sandstone and shale of the Franciscan formation. Recent geophysical studies suggest that small, unmined ore bodies exist at depth on this property (Chapman 1964). Although the development of copper prospects is greatly handicapped by high transportation costs, the Island Mountain mine has the advantage of its location on the Northwestern Pacific Railroad.

Copper Queen Mine. Location: sec. 16, T. 37 N., R. 7 W., M.D., about 2 miles northeast of Carrville. Ownership: J. M. and I. M. Foster, Box 86, Tahoe Valley, California, own one patented and three unpatented claims. Leased to the Hoover Drilling Company, 3800 Pierce Road, Bakersfield, California, in 1956.

The Copper Queen claims cover an outcrop of altered diorite in contact with serpentine. Green copper carbonate shows sparsely in the seams and fractures of the diorite and serpentine on the west end of the claims. Fine grained pyrite is visible in fragments of freshly broken diorite, but most of the pyrite has been oxidized to stain the fractured rock yellow, brown, and red.

Development of the claims prior to 1905 consisted of an adit about 225 feet long and a shallow shaft from which drifts were driven east and west near the diorite-serpentine contact. Old drift timbers are exposed in the floor of a bulldozer cut on the west end of the claims where the green copper carbonate is most evident.

The Hoover Drilling Company of Bakersfield obtained a lease on the Copper Queen mine in 1956 and shipped two carloads of surface material to the Tacoma smelter. The company installed a rotary drill and drilled a hole 78 feet deep near the diorite-serpentine contact without finding ore. The occurrence of cinnabar was noted in the floor of the open-cut on the west end, but it was not developed. The property has been idle since 1956.

High Grade and Teressa Prospect. Location: sec. 5, T. 36 N., R. 12 W., M.D., about 9 miles northeast of Denny. Ownership: C. M. and Teressa M. Salyer, Salyer, California.

A ledge of hard, fine-grained gray diorite strikes N. 25° E. and dips 85° W. between a greenstone footwall and a serpentine hanging wall. The diorite has been fractured and largely replaced by quartz, pyrrhotite, pyrite and chalcopyrite. The owner claimed that a sample taken across a width of 19 feet assayed 11 percent copper. An outcrop of similar material about 250 feet west strikes N. 25° E. and dips 50° E. The owner reported that a sample taken here across a 24-foot width assayed 14 percent copper.

In 1953 the property, consisting of two mining locations and a mill site was leased to the Cal Cop Company, Inc., of New York City. A few diamond drill holes failed to find enough copper ore to encourage development and the lease was relinquished. The property has been idle since 1953.

Island Mountain Consolidated (Annex, Leach, Merritt, Gore, Shotgun). Location: secs. 9, 10, 15, T. 5 S., R. 6 E., H., in the southwestern corner of Trinity County at Island Mountain, a station on the Northwestern Pacific Railroad. Ownership: Island Copper Company, c/o E. R. Leach, 217 Hillside Avenue, Piedmont, California.

At the Island Mountain mine, a large kidney-shaped body of massive sulfide occurs in a shear zone replacing shale and graywacke members of the Franciscan formation. The rocks strike N. 30° W. and dip steeply northeast. The sulfides include pyrrhotite, pyrite and minor amounts of arsenopyrite, galena, and sphalerite. The chief copper mineral is chalcopyrite with minor amounts of bornite and cubanite.

The Island Mountain mine, located in 1889, was the principal producer of copper in Trinity County. The ore body was about 450 feet long on the surface and 140 feet thick with a maximum width of 120 feet. It was estimated by the owner in 1914 to contain 275,000 tons of ore containing 3½ percent copper, 1½ ounces of silver and $2.00 gold per ton. The mine was developed by six adits and five shafts and has several thousand feet of drifts, crosscuts and raises. The most productive years for this mine were from 1915 to 1930, during which time almost 9,000,000 pounds of copper, 144,000 ounces of silver, and 8,600 ounces of gold were recovered from 131,600 tons of ore. Huge boulders of float ore containing 5 to 20 percent copper were found below the main ore body, and during the first 5 years of production an average grade of almost 7 percent copper was maintained by shipping high-grade float ore with the mine-run material. About 158,000 tons of ore is estimated to remain in the Island Mountain mine, but the property has been idle since 1930. A detailed geologic report on the mine has been published by the Division of Mines (Stinson, 1957).

Murphy (Copper Ace, Copper Jack, Copper King, Copper Queen) Mine. Location: sec. 36, T. 1 N., R. 7 E., H., at Copper Hill 4 miles north of Forest Glen. Ownership: Carl Julian, Bert Ogden, Bob Roberts, William Shamlee, Redding, California.

Malachite, cuprite, some bornite and a little native copper occur sporadically in a fine-grained aplitic dike 12 inches wide striking N. 40° W. and dipping 72° NE. in serpentine. The property was explored prior to World War I by three shallow shafts and a 400-foot adit. In 1951 about 39 tons of sorted material mined from bulldozer cuts and shipped to a smelter yielded 3,338 pounds of copper and 11 ounces of silver. The operation was unprofitable, and it was shut down. The deposit is worked intermittently for specimens containing native copper and bright colored copper oxides and carbonates, suitable for making into ornaments.

LODE GOLD

Although rich specimens of gold quartz were frequently found in the placer mines, the early day miners made little effort to prospect for lode gold. It was not until 1875 that prospectors discovered the Brown Bear and other mines in the Deadwood district, and Deadwood became one of the leading quartz mining districts in California. Native gold was recovered by amalgamation in stamp mills and only a few mines attempted to make a concentrate. Water power was used when it was available, but wood-fired steam boilers were used for power at the larger mines.

The gold quartz veins commonly occur in fault fissures and shear zones in granodiorite or in slates, greenstone, or schist near contact with intrusive masses of soda granite porphyry, quartz diorite, granodiorite, or serpentine. Gold is associated with pyrite, and small amounts of galena, sphalerite, chalcopyrite, and arsenopyrite are often present. Some of the richest pockets or clusters of gold were associated with calcite stained with iron or manganese oxides.

Little quartz mining has been done in Trinity County in recent years due to the increased cost of labor and supplies and the fixed price of gold.

Amy Balch (Carter) Mine. Location: sec. 13, T. 33 N., R. 8 W., M.D., 5 miles east of Lewiston. Ownership: Milton G. Carer, 2128 Shasta St., Redding, California.

The Amy Balch mine includes three unpatented claims in Deadwood Gulch about a mile south of the Brown Bear mine. A vein of ocher and quartz averaging about 2 feet in width strikes N. 40° W. and dips 40° NE. It is developed by adits and several hundred feet of drifts and crosscuts. About 1,000 tons of ore were mined prior to 1939 from a stope 100 feet long and 35 feet high, above the main adit. Carter stated that $35,000 in gold was produced from limonite and sheared quartz along the contact between diorite porphyry and slate. The ore was milled in an arrastre driven by water power.

Charles D. Bates of Oakland and associates leased the property in 1940 and did some development work, but no production was reported. The property has been idle since February 1941 except for assessment work.

Bear Tooth (Fischer). Location: sec. 33, T. 7 N., R. 7 E., H., about 2 miles east of Denny. Ownership: Hazel Creek Mining Company, Box 508, North Sacramento, California.

The Bear Tooth mine is an old property developed by several short adits and a shaft, now caved. The mine was equipped with a one-stamp mill and a Huntington mill, and the gold in the oxidized ore was recovered by amalgamation. The property had been idle for many years prior to 1947 when it was leased by the Fischer Mines, Ltd., and the lowest adit reopened. The adit was driven S. 45° E. about 300 feet on a vein of quartz and sulfides 8 to 10 inches wide. At 300 feet, about 8 inches of massive sulfides were showing in the back of the drift. At 315 feet, there were 30 inches of massive sulfides and 36 inches of gabbro and sulfides. The sulfides were mostly pyrrhotite, but included pyrite and some chalcopyrite. Fischer said that 70 tons of sorted sulfides shipped to the smelter at Tacoma, Washington, in 1947 contained $55.00 per ton in gold, silver, and copper. The mine was closed down and lay idle until it was purchased by the Hazel Creek Mining Company in 1952. Little development work has been done in recent years, and there has been no production reported since 1947.

Brown Bear Mine. Location: secs. 11, 12, 13, 14, 16, 24, T. 33 N., R 8 W., M.D., about 4 miles northeast of Lewiston. Ownership: E. E. and L. R. Erich, French Gulch, California.

The Brown Bear mine was discovered in 1875 and was actively mined until 1912. It is one of the first quartz loactions in Trinity County and has produced between 7 and 10 million dollars in gold, according to its owners. Since 1912, the mine has had short periods of activity by a number of lessees. In 1939 the Brown Bear Mining and Development Company, C. C. White, Managing Director, 1814 Franklin Street, Oakland, California, had a 10-year lease on the property. A small production was made in 1942 before the mine was shut down. In 1946 the Western Gold Mines, Inc., ran a crosscut northwest from the bottom of the Joker winze, which had a depth of 90 feet below the Watt adit level, but no ore was developed. In 1947 some ore was mined from pockets in the Last Chance vein which was drifted on 450 feet northwest from a station 280 feet above the Watt adit at a point 3,000 feet northeast of the portal. The vein was 2 to 3 feet

Phota 7. Trinity Alps. View northwest fram Weaver Bolly Mountain. Thompsan Peak, highest in the Trinity Alps, reaches an altitude of 9,002 feet. The glacioted valley in the center of the photo is the upper drainage of Canyon Creek. Rocks in the fore and middle graund are Salmon formation. The lighter color of much of the Trinity Alps is given by the tonalite of the Canyan Creek pluton. *Phata by William P. Irwin.*

wide and dipped 60° SW. between a black slate hanging wall and a gray diorite porphyry footwall.

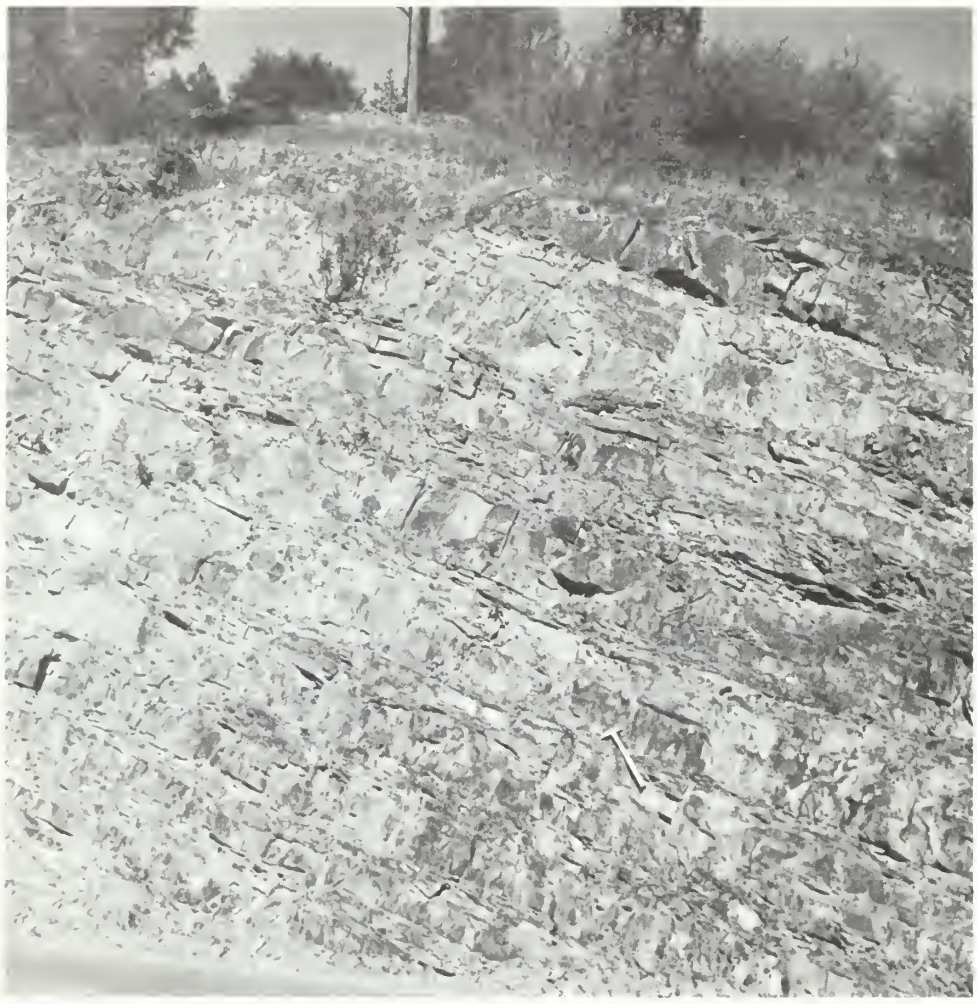
In 1948 some ore was mined from a vein developed in the Coon Dog claim. The vein was about 6 feet wide and had been drifted on in a S. 80° E. direction for about 500 feet. The vein material included fragments of white quartz, diorite porphyry and black slate. Gold was associated with pyrite and galena. The ore was mined from timbered stopes between raises 20 feet apart. Four men produced about 18 tons of ore per day. The ore was hauled in trucks to the mill at the Watt adit portal, where it was crushed to one-half-inch in a jaw crusher and ground to minus 75-mesh in a 42- by 48-inch ball mill. The fine material was fed to a Bendelari jig and the hutch product was further concentrated on a small Wilfley table. The jig overflow ran to a Dorr rake classifier and the sands were returned to the ball mill. The slimes flowed to a conditioner and thence to six flotation cells. The concentrate from the Wilfley table and flotation cells was shipped by truck to the Empire Star mill at Grass Valley, California.

The mine was closed down in 1948 and lay idle until March 1950, when the Brown Bear Mines Company resumed operation. From March to August 1950, 80 tons of ore were milled which yielded 2 tons of concentrate. There has been no production reported since 1950.

Enterprise 1 and 2 (Chicksan Oil Company) Mine. Location: sec. 33, T. 35 N., R. 11 W., M.D., about 5 miles north of Helena, California. Ownership: Dean and Dorothy Love, Stockton, California.

The Enterprise group, consisting of three patented and 28 unpatented claims was first located in 1882 and was operated almost continuously for more than 40 years. The most extensive workings are on the Lonely Jack claim, where a flat east-dipping quartz vein about 30 inches wide strikes northwesterly between greenstone walls. It was developed by four adits, one of which was driven west and northwest for 1600 feet. Much of the ore above this adit has been stoped out. Winzes below the adit level were 160 feet deep on 20° to 25° slopes. Leasers reported that 100 tons of ore mined from the winze workings yielded $6,500 and that a vein 6 feet wide below the main adit contained $7 to $18 gold per ton (Logan, 1926, p. 19). Near the west end of the Lonely Jack workings, a prominent fault strikes N. 60° W. and dips 47° N.

The Enterprise vein averages about 2 feet in width and dips about 10° NW. It has been displaced 2 to 15 feet by a series of step faults. According to Logan (1926, p. 19), the deposit appears to be a series of parallel blanket veins with numerous quartz-filled joint planes. The gold content is said to have been higher where the vein flattens. The gold is free in the quartz and is associated with galena, sphalerite, pyrite, and some carbonate.



Phato 8. Sandstane and slaty shale of the Bragdan Farmatian, dipping ta the nartheast an the west side of Trinity River in northeastern Weaverville quadrangle. *Phata by William P. Irwin.*

The gold was recovered by amalgamation in a 10-stamp mill. About 4 tons of flotation concentrate containing $300 to $400 in gold per ton was shipped annually to the smelter. Water power supplemented by a diesel engine was used to drive the compressors and generate electricity. The property has been idle in recent years except for assessment work.

Globe (Brown Bear, Chloride Group, Moonlight, North Star) Mine. Location: secs. 15, 16, 21, T. 35 N., R. 10 W., M.D., about 3 miles north of Dedrick, California. Ownership: Warren and Bert Gilzean, Junction City, California. Leased in 1957 to Dan Conger and J. C. Dickey, Box 18, Junction City, California.

The Globe vein consists of a series of white quartz lenses in a shear zone in schistose hornblende diorite lying between bodies of granodiorite, and associated with dikes of alaskite, diorite, and soda granite porphyry. The banding of the schist strikes N. 55° W. and dips 60° SW., but the series of quartz lenses strike N. 55° to 70° E. and dip 60° SE. The lenses have an average length of about 200 feet and are 8 to 10 feet wide. Parallel lenses have been found in both walls of the vein. The gold is fine and the white quartz vein material is very shattered and friable and generally stained with iron and manganese oxides. About $14 per ton was recovered by amalgamation on plates in a 20-stamp mill. A 100-ton capacity cyanide plant was operated from 1913 to 1918, but has since been dismantled.

In 1950 M. L. Benoist of Weaverville secured a lease on the property and installed a small milling plant at the portal of the old Chloride mine adit. In 1953 he reported a recovery of 19 ounces of gold and 5 ounces of silver from 50 tons of material mined from a surface cut 10 feet wide on the Chloride claim. The ore consisted of quartz veins and stringers striking N. 52° to 57° E. and dipping 54° to 76° SE. in a loose tan shale.

In July, 1957, Dan Conger and J. C. Dickey secured a lease and option on the Globe and Chloride group and started prospecting and sampling the property. No production has been made since 1953.

Kelly Mine. Location: sec. 17, T. 31 N., R. 11 W., M.D., about 4 miles southeast of Hayfork. Ownership: T. C. Kelly, Hayfork, California.

The Kelly mine includes eleven quartz claims and four mill sites. It is developed by four adits. Number 1 adit was driven S. 15° E., 60° feet through a crushed diorite and limonite-stained slate to a fault striking N. 15° E., dipping 74° E., and showing some moist blue gouge. The slate includes stringers and fragments of white quartz. Number 2 adit, 30 feet above Number 1 adit, was driven S. 12° W., 160 feet through yellow, brown, and black slate, including a few stringers of quartz. At 150 feet from the portal, a crosscut was driven 200 feet west through slate in which there were a few quartz stringers showing. Number 3 adit, 60 feet below Number 2 adit, was driven S. 70° E. 180 feet through yellow and brown slate. A raise to Number 2 adit was holed through near the portal. At 30 feet south of the portal of Number 3 adit and at a height of 4 feet above the floor, a crosscut was run west for 100 feet. A fault at the face of the adit strikes north and dips 78° E. A band of broken quartz fragments and a yellow clay gouge about 18 inches wide shows near the face of the adit. Some of the quartz is stained black. Number 4 adit, 80 feet below Number 3, was driven S. 40° E. for 650 feet. At 200 feet, a crosscut was driven east 100 feet, and at 500 feet a raise was run to Number 3 adit.

Gold occurs in white quartz associated with pyrite, arsenopyrite, and galena. Some very rich specimen ore has been taken from this mine. A small mill on the property includes a 2-foot diameter gyratory crusher and a Chilian mill. The ore is crushed to minus 40 mesh and flows over a Stephans amalgamator and a copper plate to a Gibson impact amalgamator followed by a Wilfley table. Much of the gold is free and amalgamates readily. The table concentrate is shipped to the smelter at Selby. Power is furnished by a 35-horsepower Continental engine. The mine has been worked intermittently in recent years.

PLACER GOLD

Gold mining was the principal industry in Trinity County from 1849 until just recently when it was surpassed by lumbering. The stream and terrace gravels along the Trinity River and its tributaries were rich in placer gold and many areas contained platinum which was recovered as a by-product. The first mining done by the early pioneers was with shovel and pan, rocker or sluice box. Soon water was brought to the deposits by ditch, flume, pipe, and tunnels, and hydraulic giants were used to mine the gravel and wash it through the sluice boxes. Later, bucketline dredges were used to mine stream beds and bars, and more recently, dragline dredges were used to work areas where it would be unprofitable to install a bucketline dredge.

The dredges in Trinity County were fitted with tables and sluices until 1948 when the Fairview Placers purchased the Junction City Mining Company dredge and replaced the gold tables with jigs. In 1942, before War Production Board Order L-208 went into effect, there were eight dragline dredges, two bucketline dredges, two hydraulic mines, and one gold quartz mine operating in Trinity County. Placer mining was revived somewhat after the war, and by 1946 there were two bucketline dredges, two dragline dredges, and one hydraulic mine operating. When the Fairview Placer dredge was shut down in April 1958, gold mining in Trinity County was confined to a few small-scale, intermittent operations in which one or two men were employed.

Atomic Mining Company Placer. Location: sec. 1, T. 32 N., R. 10 W., M.D., on the Trinity River about half a mile west of Douglas City. Ownership: Francis Smith, Lee Tripp, and Carol Winegardener, Box 404, Weaverville, California.

The Atomic Mining Company operated a small suction dredge in June 1946 on the South Bar claim which was leased from H. W. and Le Versa Harrison. A 6-inch centrifugal pump driven by a Buick engine was mounted on a barge made of four steel pontoons. The suction pipe was fitted with a screened point which was raised and lowered from a gantry frame and oscillated to loosen the gravel. Sand and gravel up to 2 inches in size was pumped from the river bed, discharged into a cone-shaped screen, and dropped into a distributor box from which it flowed into three sluice boxes 34 inches wide and 10 feet long. The sluice boxes were lined with burlap and metal lath. The owners estimated that the dredge had a capacity of 15 cubic yards per hour. The operation at this location was short-lived.

Batham Dredge (Weaver Dredging Company). Location: sec. 33, T. 35 N., R. 8 W.; sec. 6, T. 33 N., R. 9 W.; and sec. 1, T. 32 N., R. 10 W., M.D.; the last operation was on the East Fork of Stuart Fork at the mouth of Digger Creek, about a mile north of Minersville. Ownership: O. R. Batham Dredging Company, Box 325, Concord, California. The ground was leased from the Angele Bazet Estate.

The gravel at the last operation was 8 feet deep above a soft slate bedrock. There were few boulders and digging was easy. The operation at this site started April 13, 1941. The dredge was shut down in 1942 and did not resume operation after the war. It was sold and moved to the Trinity River at Del Loma in October 1945.

The Bodison washing plant was built on six steel pontoons making a hull 36 feet wide, 51 feet long, and 3 feet deep. The trommel was 5 feet in diameter and 35 feet long with a 25-foot length of ½-inch to ⅝-inch screen. The stacker belt was 30 inches wide and 60 feet long. The cross sluices were fitted with steel-shod Hungarian riffles, and the downstream sluices

Photo 9. Closeup view of the surface of Lo Gronge fault. Patches of dark-colored rock are remnants of a sheet of mylonite, about a foot thick, that was formed by extremely fine grinding of the rocks during movement along the fault. *Photo by William P. Irwin.*

were lined with expanded metal over burlap. Mercury was added to the cross sluices. Power was supplied by a Caterpillar D-13000 engine, and a General Electric Company 15-kilowatt generator furnished electricity for lighting. The dredge was operated on three shifts with a crew of 12 men.

A dragline dredge was operated on East Weaver Creek about a mile north of Weaverville in 1939. In the course of this work, 1,161,254 cubic yards of gravel yielded 4,262 ounces of gold and 373 ounces of silver. A second dragline dredge worked on a terrace of the Trinity River east of Douglas City. Both dredges were moved to other sites in 1941.

Bennett Hydraulic Mine. Location: sec. 6, T. 33 N., R. 12 W., M.D., on the south side of the Trinity River across from Big Bar. Ownership: V. B. Bennett of Sacramento, California, and Curtis Bennett of Big Bar, California. The property includes 129 acres of patented land formerly owned by W. A. Pattison of Big Bar. The gravel is 15 to 30 feet deep above a slate, sandstone and quartzite bedrock, and consists of pebbles and boulders of diorite, gabbro, quartzite and porphyry. There are many cobbles and boulders. Water is brought from Deer Creek through 2 miles of ditch and delivered into a reservoir about 200 feet higher than the pit.

The gravel is mined with a hydraulic giant fitted with a 5-inch nozzle and washed through 320 feet of 3- by 3-foot sluice boxes lined with block riffles and mounted on trestles. One giant is used to elevate the gravel about 12 feet from the floor of the pit to the head sluice box. Sufficient water is available for a 5- to 6-month operation each year. The bedrock is cleaned by hand-shovelling the gravel into a portable placer mining machine consisting of a small trommel and a metal sluice box. Curtis Bennett works the property with the part-time help of one or two men. Bennett said he mined about 17,000 cubic yards of gravel during a season, and that it averaged 60¢ in gold per cubic yard.

Bergin Placer. Location: sec. 18, T. 33 N., R. 10 W., and secs. 12, 13, 24, T. 33 N., R. 11 W., M.D., across the Trinity River from Junction City. Ownership: G. H. Bergin and Associates, Weaverville, California.

The Bergin hydraulic mine includes about 600 acres of patented land along the south and west banks of the Trinity River near Junction City. It is a con-

solidation of several old hydraulic mines including the Boston No. 5, Joe Sturdivant, Keno, and Laws. The hydraulic pit is about a mile south of Junction City. The gravel bank is 30 to 50 feet high above a hornblende schist bedrock. The gravel is mostly fine with a small amount of compacted material. Water is brought from Mill Creek through 1700 feet of steel pipe 24 inches in diameter and delivered to the giants under a 186-foot head. Water rights are owned on Mill Creek, Soldier Creek and McKinney Gulch. There is a ditch five miles long from Soldier Creek.

In March 1946, the property was leased to a partnership including Henry Lindsay, Albert Lane, Walter Croll, and Phillip Young of Oakland, California. The gravel was mined with two giants equipped with 6-inch nozzles and one with a 4-inch nozzle. There were 17 sluice boxes 12 feet long and 4 feet wide lined with longitudinal rail riffles. The property has had no production since 1946.

B.H.K. Mining Company Dredge. Location: Various places in the Weaverville district in T. 33 N., R. 9 W., and T. 32 N., R. 10 W., M.D. Ownership: E. D. Bishop and Louis Krantz, Orland, California.

The washing plant of this dredge was built on wood and steel pontoons making a hull 22 feet wide, 31 feet long and 36 inches deep. The trommel was 4 feet in diameter and 24 feet long with a 12-foot length of ½-inch screen. Sluice boxes were lined with expanded metal and rubber matting. The gravel was dug with a P. & H. dragline equipped with a 60-foot boom and a 1½-cubic yard bucket. The dredge was operated on Littlejohn Creek in the Weaverville District from July to December 31, 1940. The operators reported a recovery of 789 ounces of gold and 40 ounces of silver from 184,000 cubic yards of gravel.

The dredge was moved to Little Browns Creek and operated on the Rehberger property from January 1 to May 2, 1941, and the yield reported from washing 176,000 cubic yards of gravel was 751 ounces of gold and 41 ounces of silver. From May 3 to July 1, 95,000 cubic yards of gravel on the M. K. Brown property yielded 405 ounces of gold and 24 ounces of silver. From July 20 to September 12, they recovered 349 ounces of gold and 28 ounces of silver from 81,500 cubic yards of gravel. The operation at the Tye property from September 13 to October 22 yielded 150 ounces of gold and 10 ounces of silver from 55,000 cubic yards of gravel (Averill, 1946, p. 305). The dredge was moved to Boulder Creek in Shasta County in October 1941.

Browns Creek (Arbuckle) Placer. Location: secs. 9, 16, T. 33 N., R. 9 W., M.D., about 2 miles southeast of Weaverville. Ownership: C. O. Arbuckle, Box 23, Weaverville, California.

The gravel bank is 25 to 35 feet high above a porphyry bedrock. There are many cobbles and boulders of schist and quartz diorite. Water is brought from Browns Creek through a ditch about 4 miles long and delivered to two hydraulic giants under a 150-foot head. The giants are fitted with 2-inch and 5-inch nozzles. The gold is fine, and it is distributed all through the red sandy soil in the bank. The gravel is washed through 110 feet of sluice boxes 40 inches wide, fitted with longitudinal rail riffles. The length of the operating season depends on the water supply, but it usually extends from January to April. Arbuckle has worked this property since 1947.

Buckeye (Ferl Dredge, St. Marys and Live Oak) Placer. Location: sec. 19, T. 37 N., R. 7 W., M.D., and secs. 23, 24, T. 37 N., R. 8 W., M.D., a mile west of Stringtown. Ownership: Clair Hill of Redding, California, and Dr. Numa P. Dunne, of Oakland, California.

This placer extends along Buckeye Creek 1 to 3 miles west of Stringtown. The gravel is 8 to 10 feet deep above a decomposed granodiorite bedrock. There are many cobbles and boulders and little room for storing tailings. The placer was worked intermittently by ground sluicing for several years. In November 1948, Arthur B. Ferl of Redding obtained a lease on the property and installed a small dry-land washing plant built on a steel frame and mounted on skids. The gravel was dug with a P. & H. dragline equipped with a 60-foot boom and a 1½ cubic yard bucket. Cobbles and boulders over 10 inches in size were scraped off the rail grizzly above the hopper of the washing plant. The trommel was 4 feet in diameter and 24 feet long with an 18-foot length of screen. The stacker belt was 24 inches wide and 42 feet long. There were eight cross sluices and two downstream sluices all on one side of the trommel. Ferl reported a recovery of 30 ounces of gold and 2 ounces of silver from 2,600 cubic yards of gravel.

V. B. Bennett of Sacramento, California, operated a dragline dredge on the Buckeye placer during the month of March 1949, but there were too many boulders, and the bedrock proved to be too hard to dig. He moved his dredge to Canyon Creek near Junction City in April.

In April 1950, O. H. Shoemaker, a former owner of the property, and Dewey Troph, of Oakland, California, equipped the property for ground sluicing. The gravel was mined by a stream of water pumped by a 6-inch centrifugal pump to a hydraulic giant fitted with a 2½ inch nozzle. Boulders were removed by scraping them from a rail grizzly placed above the head sluice box. They were stacked with a bulldozer and a P. & H. dragline fitted with a 40-foot boom and a ¾-cubic yard bucket. The sluice boxes were 3 feet wide, 18 inches deep and 54 feet long, and they were lined with pole riffles. The sluice boxes were mounted on channel iron skids so they could be moved readily without dismantling. The operation was short-lived,

probably because of the number of boulders, the lack of tailings space and the cost of pumping. In 1953 and 1954, Leo Unger of Stringtown operated the property intermittently by ground sluicing on a small scale. The placer has had no production since 1954.

California-Keystone Placer. Location: sec. 6, T. 35 N., R. 11 W., sec. 31, T. 36 N., R. 11 W., M.D., on the North Fork of Trinity River, about 11 miles north of Helena, California. Ownership: California-Keystone Placer Mining Company, Inc.; A. Frank Trueby, President, 1240-23rd Avenue, Oakland, California (1946).

The California-Keystone Placer Mining Company, Inc., leased some placer ground along the North Fork of Trinity River extending north from Hobo Gulch in 1946. The gravel was about 75 feet wide and from 6 to 16 feet deep above a soft serpentine bedrock. There were many large boulders and cobbles and the stream grade was flat, so that tailing storage was a big problem. The gravel was mined with hydraulic giants supplied with water by centrifugal pumps. Equipment included two bulldozers, two 270-horsepower diesel engines supplying power for two 10-inch centrifugal pumps, a double-drum hoist with a 60-horsepower engine for a stiff-leg stacker, eight hydraulic monitors fitted with 1, 3, and 5-inch nozzles and 60 feet of sluice boxes 30 inches wide and 24 inches deep. The sluice boxes were lined with rail riffles in the head boxes followed by block riffles. The operation was short-lived. The equipment has been removed from the site and the project abandoned.

Canyon Placers, Inc. Location: secs. 29, 30, 31, 32, T. 35 N., R. 10 W.; secs. 1, 12, 13, 24, T. 34 N., R. 11 W.; and secs. 6, 7, 18, 19, T. 34 N., R. 10 W., M.D., along Canyon Creek south of Dedrick. Ownership: Canyon Creek Development Company, c/o R. A. Beland, 3532 Ardley Avenue, Oakland, California.

The Canyon Placers, Inc., included the Dannenbrink, Harmon, Hikes Hill, H. C. Hilt, Howell, Major Price, Oswald, Red Flat, Rough and Ready, and Sidney Smith patented placer claims; 26 unpatented claims, including the Ackerman, Comstock, Henry Jenkins, Pittsburg, Prussian, Heinburger, and Wilt; water rights and ditches along Canyon Creek near Dedrick.

The property was leased and operated by George Bergin of Weaverville in 1940 and 1941. Water was brought from Canyon Creek and its East Fork through 3½ miles of ditch and flume, to a large reservoir above the pit. From the reservoir, the water flowed through about 3,300 feet of 30-inch and 15-inch riveted steel pipe and was delivered to the hydraulic giants under a 300-foot head. The gravel bank was about 35 feet high above a black schist bedrock. The gravel was mined with a hydraulic giant fitted with a 7-inch nozzle. Water was available for about a 6-hour operation in 24. There were 400 feet of sluice boxes 4 feet wide and 4 feet deep. The first 200 feet of sluice boxes were lined with longitudinal steel riffles and the rest with block riffles. The sluice boxes were set with an 8-inch drop in 12 feet. The gold was coarse and nuggets up to $10 in value were recovered.

The property was idle from 1942 to 1945 when M. L. Benoist of Weaverville obtained a sub-lease. There was not enough water for a continuous hydraulic operation, so a three-pronged rooter was used to loosen the gravel and a D-8 Caterpillar bulldozer was used to dig it from a pit about 100 feet wide, 300 feet long, and 40 feet deep. Boulders and cobbles were screened out on a rail grizzly and the undersize material fell into a rock cut into which a small stream had been directed.

In the winter of 1946, George Bergin took charge of the property and used two No. 6 giants with a 180-foot head of water to work a bank about 30 feet high. The gravel was run through about 400 feet of race to a sluice box 5 feet wide and 120 feet long. Fifteen men were employed.

In 1948 the property was worked by the Canyon Creek Development Company. Two hydraulic giants fitted with 5-inch nozzles could be operated for only two hours a day because of the water shortage. A slackline was used to stack the boulders. There were 144 feet of 30-inch by 36-inch sluice boxes lined with block riffles. Two men were employed. The property was idle in 1949, but in 1950, Pete Kooyman, a director of the Canyon Creek Development Company, took over the operation. He worked a bank where the gravel was 30 feet high above a shale bedrock. There were many boulders of hornblende schist, quartz and granodiorite. Water was brought from Rarick Creek through about 1200 feet of 16-inch welded steel pipe. Two giants fitted with 6-inch and 8-inch nozzles were used. There was water enough to work two hours per day. The gravel was run through 125 feet of sluice boxes 4 feet wide and 4 feet deep lined with block riffles. Kooyman said he mined about 20,000 cubic yards of gravel in 1950. The recovery was small. The mine has been idle since 1950 and some of the claims have been sold.

Carrville Gold Company Dredge. Location: sec. 8, 17, 20, 29, T. 37 N., R. 7 W., M.D., on the Trinity River near Carrville. Ownership: Thurman and Wright, 625 Market Street, San Francisco, California.

The Carrville Gold Company, Duluth, Minnesota, started operating a bucketline dredge on the Trinity River near Carrville September 15, 1939. The dredge was built by the Yuba Manufacturing Company. The steel hull was 149 feet, 4 inches long, 68 feet wide, and 10 feet deep. The digging ladder was 119 feet long and included 75 buckets of 12-cubic feet capacity. The weight of the digging ladder was supported

by an idler pulley in the well. Electric power was purchased from the California Oregon Power Company. Power to drive the digging ladder was furnished by a 400-horsepower motor. The trommel was 8 feet in diameter and 48 feet long with 33 feet of screen having ¼-inch to ¾-inch holes. The trommel was rotated at 8 revolutions per minute by a 50-horsepower motor. The stacker belt was 42 inches wide and 123 feet long. It was driven by a 50-horsepower motor. Accessory equipment included a D-7 Caterpillar bulldozer, 300-ampere Lincoln arc-welder, an acetylene generator with cutting tools, an Ingersoll-Rand 300-cubic foot capacity air compressor mounted on skids, air-power tools such as chippers, hammers, grinders, drills, and a double-drum winch operated by a 35-horsepower motor. The sluice box cleanup was worked down in a long tom and then ground in a ball mill with quicksilver. The crew varied from 24 to 32 men.

The dredge was closed down during World War II, and no production was reported from 1943 to 1945. Dredging was resumed in March 1946, but a broken tumbler caused a shutdown from July to December. Breakdowns and repair costs where the dredge was digging in sec. 20, T. 37 N., R. 7 W., M.D., made operating unprofitable, and the operation was finally shut down June 1, 1947. It has been idle since.

Chapman and Fisher Mine. Location: secs. 19, 29, 30, T. 33 N., R. 10 W., M.D., on the west bank of the Trinity River about 3 miles south of Junction City. Ownership: Earl P. Johnson and Frank L. Chapman, Junction City, California, own 128.32 acres of patented land.

The Chapman and Fisher claims were located in 1871 on three gravel benches along the west bank of the Trinity River. The bank was 70 to 100 feet high above a soft shale bedrock. The gravel was 8 to 20 feet high above the bedrock and was covered with 50 to 80 feet of red soil. There were many large boulders, some weighing several tons. Water was brought from Soldiers Creek in the Bergin Placer ditch and delivered under a 300-foot head to hydraulic giants fitted with 5- and 6-inch nozzles. The gravel was washed through 84 feet of sluice boxes 24 inches wide, lined with longitudinal rail-riffles. The gold was fine and in the early years of operation, the mine was noted for the platinum recovered as a by-product. In the first half of 1946, the mine was worked by Chapman, Hill, McCartney and Loft of Junction City, and 12,000 cubic yards of gravel yielded 48 ounces of gold and 4 ounces of silver. There has been no production recorded from this property since 1946.

Clear Creek Gold Dredging Company (Enterprise Engineering Company). Location: sec. 18, T. 32 N., R. 9 W., M.D., on Reading Creek, about 2½ miles south of Douglas City. Ownership: W. F. Eubank and Walter Sivochenko, 1706 Broadway, Oakland, California.

The Clear Creek Gold Dredging Company moved their dragline dredging equipment from Clear Creek, north of French Gulch to this location on Reading Creek in August 1947. The dredge was set up on two placer claims leased from Ted Miller and Earl Johnson of Weaverville. The gravel was about 10 feet deep above a soft slate bedrock. The Bodinson dredge was built on five steel pontoons making a hull 40 feet long by 36 feet wide and 42 inches deep. The trommel was 5 feet in diameter and 37 feet long. The stacker belt was 30 inches wide and 50 feet long. Power was furnished by an International VD-18 diesel engine driving a Palmer electric generator. The gravel was dug with a dragline equipped with a 60-foot boom and a 2-cubic yard bucket. The operators reported a recovery of 95 ounces of gold and 9 ounces of silver from 56,000 cubic yards of gravel. The operation was short-lived at this location, and the dredge was sold and moved to Indian Creek in 1948.

Costa Ranch Placer. Location: secs. 9, 16, 17, 21, T. 34 N., R. 9 W., M.D., on Rush Creek, about 6 miles west of Minersville. Ownership: Frank and George Costa, Lewiston, California, and Associates.

The gravel along Rush Creek on the Costa Ranch is about 35 feet deep above a layer of hard cemented gravel, and there are many cobbles and some large boulders. Water is brought from Rush Creek through a ditch about a mile in length and delivered to two hydraulic giants under a 125-foot head. The gravel is washed through 50 feet of sluice boxes 40 inches wide and 48 inches deep, fitted with block riffles. Tailing is stacked with a bulldozer. Equipment includes a D-8 Caterpillar tractor with a power unit, a D-7 Caterpillar bulldozer with a Hyster winch, a 300-ampere Lincoln arc welder, and an Allis-Chalmers tractor bulldozer. The Costa brothers work the placer intermittently on a small scale.

Dobbins Gulch Dredging Company (Gerlinger) Dredge. Location: secs. 19, 30, T. 33 N., R. 9 W., M.D., on Weaver Creek, about 2 miles south of Weaverville. Ownership: E. E. Gerlinger, 1539 Placer Street, Redding, California, leased placer ground from M. A. Brady of Weaverville in 1941 and 1942.

The dredge was built at the Gerlinger Foundry and Machine Works in Redding. The washing plant was built on a hull 32 feet long and 24 feet wide. The trommel was 4 feet in diameter and 23 feet long. The stacker belt was 30 inches wide and 42 feet long. There were eight cross sluices and two downstream sluices 24 inches wide fitted with Hungarian riffles on each side of the trommel. Water was supplied by a Fairbanks-Morse 8-inch centrifugal pump. Power was furnished by a 55-horsepower International diesel engine driving a P & H generator. The gravel was 10 to

Photo 10. View of the main open cut at Reese Brothers coal mine, showing dark-colored lignite interlayered with light-colored claystone, siltstone, and sandstone of the Weaverville Formation. *Photo by William P. Irwin.*

15 feet deep above a schist and serpentine bedrock. About 1200 cubic yards of gravel per day was dug with a Koehring dragline equipped with a 45-foot boom and a 1¼-cubic yard bucket. The black sand concentrate was shipped to Wildberg Brothers in San Francisco. A crew of seven men worked under the supervision of A. B. Ogilvie of Weaverville. The dredge was shut down and dismantled in 1943.

Eastman (Jim Sing) Placer. Location: secs. 33, 34, T. 34 N., R. 8 W., M.D., about 4 miles northeast of Lewiston. Ownership: J. W. Martin, Lewiston, California, owns 260 acres of patented land.

The Eastman placer was worked by the Chinese for many years prior to 1914. The gravel was 20 to 30 feet deep above a greenstone bedrock. Water was brought from Mooney and Eastman gulches through ditches 3 and 5 miles long and delivered to two hydraulic giants under 100-foot head. The sluice and tail race was 2,000 feet long and discharged 7 feet above the Trinity River.

In 1941 and 1942, J. W. Martin, the owner, and R. W. Setzer of Redding, California, operated a portion of the property by ground sluicing. The gravel was 18 inches to 3 feet deep above a greenstone bedrock. Mining was done by bulldozing the gravel into a sluice box 30 inches wide and 36 feet long lined with longitudinal rail riffles. The mine was worked from January to June each year when water was available.

Fairview Placers Dredge. Location: secs. 3, 4, 9, 10, T. 34 N., R. 8 W. and secs. 24, 25, 26, 34, 35, T. 35 N., R. 8 W., secs. 18, 19, T. 35 N., R. 7 W., M.D., on the Trinity River east of Minersville. Ownership: Fairview Placers, Lewiston, California. The Fairview Placers is a joint venture of the Idaho-Canadian Dredging Company of Boise, Idaho, the Lehman Corporation of New York City, and the Sunshine Mining Company of Kellog, Idaho.

The Fairview Placers purchased the bucketline dredge of the Junction City Mining Company in 1948 and moved it from the Trinity River near Junction City to the Trinity River near Minersville at the mouth of Stuart Fork. Ten steel pontoons were added to make a hull 136 feet long, 63 feet wide and 8 feet deep. The digging ladder was lengthened to 98 feet and equipped with 77 buckets of 10 cubic feet capacity. The trommel is 6 feet in diameter and 42 feet long with 32 feet of screen. The stacker belt is 36 inches wide and 135 feet long. The high pressure, 10-inch centrifugal pump is driven by a 100-horsepower motor. The low pressure, 10-inch centrifugal pump is driven by a 60-horsepower motor. A 4-inch utility pump is driven by a 25-horsepower motor, and two 6-inch pumps supplying water for the jigs have 30-horsepower motors. An additional 6-inch pump was installed to furnish more water when needed.

The gold tables used by the Junction City Mining Company were replaced by 28 Yuba placer jigs. There

are fourteen rougher jigs on one side of the trommel and twelve rougher jigs and two cleaner jigs on the other side. The rougher jig overflow runs to tail sluices 30 inches wide which discharge the sands 36 feet behind the hull. A sand elevator can be used to raise surplus sand to the stacker belt if necessary. The rougher jig concentrate is pumped to six metal sluices 10 inches wide and 12 feet long, lined with expanded metal over cocoa matting. The overflow from the sluices is pumped to two cleaner jigs. The concentrate from the sluices is amalgamated and retorted. The cleaner jig overflow runs into the pond and the concentrates are returned to the sluice boxes.

The dredge started operating September 18, 1949, in sec. 9, T. 34 N., R. 8 W., near the mouth of Stuart Fork on ground owned by R. F. Lewis of San Francisco. The gravel at this location consisted of old hydraulic tailing and was 25 to 35 feet deep. There was about a foot of cement gravel above a soft shale bedrock and there were few boulders. The dredge worked up Stuart Fork and Buckeye Creek about three-quarters of a mile and then back to the Trinity River and northeastward along the river on the Harold Placer, almost to the mouth of Van Ness Creek. The depth of the gravel and the character of the bedrock varied from place to place along the river, but the dredge was able to dig between 6,000 and 7,000 cubic yards per day. The dredge was capsized by a severe flood on December 22, 1956, and was shut down until June 12, 1957. The operation was finally shut down on April 1, 1958 because of the Trinity River Project. The Fairview Placers was reported to have been paid $550,000 by the government in lieu of expected profits. The dredge and all equipment must be moved before January 1, 1964.

Goldfield Consolidated (Barthel Jacobs, Dump, Evans and Bartlett, Gilzean Bros., Hockey, Jacobs, Northern California Mines Company, O'Shay, Paterson and Low Bar, Red Hill, Sunrise). Location: secs. 1, 2, T. 33 N., R. 11 W., and secs. 35, 36, T. 34 N., R. 11 W., M.D., on the west side of the Trinity River, 1 to 2 miles northwest of Junction City, California. Ownership: Goldfield Consolidated Mines Company, Crocker Bank Building, San Francisco, California, and others.

In 1938 the Goldfield Consolidated Mines Company combined a group of old hydraulic mines located on terraces along the west bank of the Trinity River 1 to 2 miles below Junction City. Some of these mines, including the Barthel Jacobs and the Red Hill, were held and operated by the Northern California Mines Company from 1934 to 1937. In 1939 J. A. Gilzean of Junction City obtained a lease from Goldfield Consolidated Mines Company on a hydraulic pit near the river level. Water was taken from Canyon Creek and carried across the Trinity River in a 28-inch diameter pipe supported by a suspension bridge. Two No. 6 giants fitted with 6- and 7-inch nozzles were used to mine a bank about 52 feet high above a hornblende schist bedrock. Nine men were employed and about 1500 cubic yards of gravel were mined in two shifts a day.

Bert and Warren Gilzean leased the Red Hill mine from Goldfield Consolidated Mines Company in 1939 and worked it until the end of the 1950 season. The gravel banks varied in height from 12 to 120 feet, but the most gold was found close to the bedrock. There were many boulders. Water was brought from three reservoirs on Conner Creek through two lines of riveted steel pipe, 15 to 34 inches in diameter, and delivered to two hydraulic giants under 200-foot and 100-foot heads. The bedrock varied from hornblende schist to diorite and serpentine. The giants were fitted with 6- and 7-inch nozzles. The gravel was washed through 120 feet of sluice boxes 5 feet wide, lined with rail riffles. The length of the operating season depended on the water supply, but piping usually started in December and sometimes continued to the middle of April.

In 1946 a partnership composed of Ward Hill, C. M. McCartney, and H. C. Loft of Junction City leased a portion of the Montezuma claim from the Goldfield Consolidated Mines Company. Gold was found in crevices and cracks in a decomposed hornblende diorite schist. There was little overburden, and the bedrock was mined 18 to 20 inches deep with a bulldozer. The material was pushed into a mill race cut into the bedrock 18 to 20 feet deep for a length of about 175 feet. There were about 50 feet of sluice boxes at the lower end of the mill race. They were 24 inches wide and 20 inches deep and lined with Hungarian riffles below longitudinal rail-riffles. The material was mined for a width of about 250 feet on each side of the mill race. Water was purchased from John Bergin and taken from the ditch from McKinney Creek.

There has been no mining activity on the Goldfield Consolidated Mines Company property since 1950, and some of the claims have reverted to former owners.

Harold's Club (High Channel, Smith) Dredge. Location: sec. 36, T. 31 N., R. 11 W., M.D., along the East Fork of Hayfork River about 8 miles southeast of Hayfork. Ownership: Harold's Club, Reno, Nevada. Property was leased from E. J. Gunther of Woodland, California.

The gravel at this property was 12 to 15 feet deep above a hornblende schist bedrock. Digging was done with a Lima dragline equipped with a 70-foot boom and a 2¾-cubic yard bucket. The Bodinson washing plant was built on steel pontoons bolted together. Power was furnished by a Murphy diesel engine driving a 125 KW generator. The dredge worked three 8-hour shifts and washed above 3,500 cubic yards of

gravel per day. Fifteen men were employed. The dredge was shut down in July, 1941, after a short operation. H.S., R.A., and R. I. Smith operated the dredge an additional 30 days and reported a recovery of 300 ounces of gold and 40 ounces of silver from 100,000 cubic yards of gravel (Averill, 1946, p. 312).

Ho Hat Placer. Location: sec. 9, T. 34 N., R. 11 W., M.D., on the east bank of the North Fork of Trinity River about three miles north of Helena. Ownership: David E. and Bernice Montgomery, Helena, California.

The Ho Hat placer consists of one claim worked as a hydraulic mine. The gravel is 8 to 12 feet deep above a soft blue slate bedrock. Water is brought from Fox Gulch through 13- and 18-inch diameter riveted steel pipe and delivered under heads of 75 and 100 feet to two hydraulic giants fitted with 3- and 4-inch nozzles. The gravel is washed through 70 feet of 2- by 2-foot sluice boxes fitted with Hungarian riffles in the top half and pole riffles in the lower half. David Montgomery was working alone when the property was visited in December 1948. He said the property adjoining on the south was worked by Chinese in the pioneer days.

Indian Creek (Bennett) Dredge. Location: secs. 5, 8, T. 32 N., R. 9 W., M.D., about 2 miles east of Douglas City. Ownership: V. B. Bennett and Associates, Terminal Truck Service, Sacramento, California. Land leased from F. T. Basler, San Francisco, California.

The gravel on this property was 12 to 15 feet deep above a fairly hard shale bedrock. Digging was done with a Lima dragline equipped with a 55-foot boom and a 1½-cubic-yard bucket. The Bodinson washing plant was built on five steel pontoons making a hull 36 feet wide, 46 feet long, and 42 inches deep. The trommel was 5 feet in diameter and 37 feet long. Water was supplied by a Fairbanks-Morse 10-inch centrifugal pump. Power was supplied by an International diesel U-D 18 engine and a Palmer generator. The sands were run over conventional sluice boxes with Hungarian riffles. Fifteen men were employed. This dredge was moved to Buckeye Creek near Stringtown in March 1949.

Junction City (Hager and Haas, Junction City Mining Company) Dredge. Location: sec. 18, T. 33 N., R. 10 W. to sec. 35, T. 34 N., R. 11 W., M.D., on the Trinity River near Junction City. Ownership: Junction City Mining Company, 685 6th Street, San Francisco, California.

The Junction City dredge started operating on the Trinity River about a mile south of Junction City on January 10, 1936. The dredge was built on 31 steel pontoons making a hull 120 feet long, 52 feet wide, and 8 feet deep. The digging ladder had 72 buckets of 9½-cubic yards capacity, driven by a 200-horsepower electric motor. The trommel screen was 6 feet in diameter, 37 feet long and had 27 feet of ¼-inch to ½-inch screen. It was rotated by a 35-horsepower motor. Water was supplied by a 10-inch high-pressure pump driven by a 100-horsepower motor; a 10-inch low-pressure pump driven by a 50-horsepower motor; a 4-inch pump driven by a 20-horsepower motor; and a 6-inch high pressure pump driven by a 50-horsepower motor. The staker belt was 36 inches wide and 135 feet long, and it was driven by a 50-horsepower motor. The winch was driven by a 35-horsepower motor. There were ten cross sluices and three downstream sluices 30 inches wide on each side of the trommel. The dredge was capable of digging 35 feet below the water. The gravel was 18 to 21 feet deep above a hard serpentine bedrock in sec. 1, T. 33 N., R. 11 W. Some platinum was recovered with the gold. Twenty-one men were employed.

This dredge was shut down on April 27, 1948. It was purchased by Fairview Placers and moved to the Trinity River near Minersville in 1948.

Karrer (Sunflower) Mine. Location: sec. 26, T. 39 N., R. 7 W., M.D., about 10 miles north of Carrville. Ownership: Lloyd L. Karrer, Trinity Center, California.

The Karrer placer is a small-scale hydraulic operation on the west bank of the Trinity River at Sunflower Flat. The gravel is about 12 feet deep above a layer of cemented gravel and consisted of pebbles and cobbles of serpentine and diorite with many boulders. The material was mined with a giant fitted with a 4-inch nozzle and washed over a steel-shod grizzly with 2-inch spaces. The undersize material was washed through 30 feet of 12-inch square sluice lined with a half-inch mesh screen over burlap in the first 24 feet and with Hungarian riffles for the remainder. Karrer worked the placer intermittently without assistance. The operation was handicapped because there was little slope for tailing disposal.

La Grange (Clary and McCarthy, Mount Morensis, Railroad and Mount Morensis, Trinity Gold and Mining Company, Ward) Mine. Location: secs. 3, 7, 8, 9, 10, 15, 16, 18, T. 33 N., R. 10 W., M.D., about 3 miles west of Weaverville. Ownership: La Grange Placer Mines, Ltd., c/o B. Stookey, Weaverville, California.

The La Grange mine was a consolidation of the Clary and McCarthy, Mount Morensis, Railroad, Sturdivant, Ward, and other placer mines embracing several thousand acres of patented and unpatented land 3 to 6 miles west of Weaverville. The gravel bank was 20 to 500 feet high in places above a shale and greenstone bedrock. The richest gravel was in a layer of blue gravel about 15 feet thick which, with an equal thickness of red gravel and a layer of cemented gravel, made up the "pay gravel". The overburden contained

Phata 11. La Grange mine area. View northeast toward the gently southward-dipping surface af La Grange fault. The fault surface is exposed an the barren slape to left af center across the gulch, and is traversed by U.S. Highway 299. The faatwall black af the fault is Salman farmatian. Rocks to the right af center across the gulch are af the hanging wall black, and cansist of highly sheared Abrams farmation and other racks. *Phata by William P. Irwin.*

a variety of rocks foreign to the vicinity, and there were many heavy boulders. Water was brought from Stuart Fork, Rush Creek, and Weaver Creek through 29 miles of ditch, flume, and tunnels, most of which is now in a wrecked condition. The water was delivered to the hydraulic giants under a 500-foot head. The mine was last operated in 1942 with water brought from East and West Weaver Creeks through 12 miles of ditch, flume, and pipe. There was sufficient water to operate four giants fitted with 9-inch nozzles for two 4-hour shifts per day. The gravel was washed through 500 feet of sluice boxes 5 feet wide and 4 feet deep, lined with rail riffles. The yield from 250,000 cubic yards of gravel mined between January 1 and July 1, 1942, was 582 ounces of gold and 52 ounces of silver. The La Grange mine is estimated to have produced about eight million dollars in gold and was one of the largest hydraulic mines in the world.

Photo 12. Union Hill hydroulic mine. View northwest from southern rim of pit. North rim of pit, visible ocross middle of photo, is ot old surfoce of high-level terroce deposits. Old bedrock stream channels are exposed by placer mining on the low bench in the middle ground. *Photo by William P. Irwin.*

Lewiston Placers. Location: sec. 20, T. 33 N., R. 8 W., M.D., about half a mile south of Lewiston. Ownership: J. W. Phillips, Lewiston, California.

The Lewiston Placers was a partnership composed of T. D., C. R., and C. M. Harris, and Y. Soden of Lewiston, California. They leased and operated the hydraulic mine owned by J. W. Phillips in 1941 and 1942. The property consisted of terrace gravel about 100 feet above the Trinity River just south of Hoadley Gulch. The gravel was 10 to 15 feet high above a slate bedrock. Water was brought from Deadwood Creek through 5 miles of ditch and from Hoadley Gulch through a ditch 1 mile long. The water was delivered to two hydraulic giants under a 175-foot head. The gravel was washed through 100 feet of sluice 30 inches wide lined with Hungarian riffles fitted with manganese steel lips. The mine was worked three shifts per day from January to July each year

when water was available. In 1942 188 ounces of gold and 24 ounces of silver were recovered from 75,000 cubic-yards of gravel (Averill, 1946, p. 308).

Mires and Underseath (Abrams, Alcan Mining Company, Coffee Creek, Larsen and Harms, Mires and Garner, Western Mines Company) Dredge. Location: secs. 28, 29, 30, 31, 33, 34, T. 38 N., R. 9 W., M.D., about 12 miles northwest of Carrville. Ownership: Mrs. E. L. Joseph, Helen Gates and Evelyn Spiegelman, 182 Commonwealth Avenue, San Francisco, California.

A partnership including Roy Mires and Carl Underseath purchased a bucketline dredge from the Poverty Hill Dredging Company at La Porte, Plumas County, May 31, 1946, and moved it to Coffee Creek in Trinity County. The dredge was installed on the Monroe placer west of Hickory Creek and started operating about the first of May 1947. The partners had a lease on a strip of land extending about 8 miles along Coffee Creek from the mouth of Union Creek to Big Flat. A camp was built at Hickory Creek to accommodate a crew of 15 men.

Photo 13. Mires and Underseath dredge.

The dredge was built on 25 steel pontoons making a hull 100 feet long, 50 feet wide and 7 feet deep. The bucketline carried 82 buckets of 6-cubic-foot capacity, and it was driven by a 100-horsepower electric motor. The trommel was 6 feet in diameter and 30 feet long with 22 feet of tapered holes ⅜-inch to ½-inch in diameter. It was rotated by a 40-horsepower motor. The staker belt was 30 inches wide and 40 feet long, and it was driven by a 25-horsepower motor. There were eight cross sluices and two downstream sluices 28 inches wide, fitted with rubber-covered wooden Hungarian riffles on each side of the trommel. Quicksilver was used in the top sections of the cross-sluices and in the distributor trough beneath the trommel. Most of the gold was recovered in the distributor. The gravel was 18 to 30 feet deep, and the bedrock ranged form soft shale to hard serpentine and granite. There were many large boulders.

Electric power was obtained from a General Electric Company 350-kilowatt generator driven by a Busch-Sulzer Bros. diesel engine. Diesel oil was stored in four steel tanks, each 7 feet in diameter and 25 feet long. The dredge was operated on three shifts of 8 hours each with a crew of 20 men.

The dredge was capsized in 1948, and there was no production recorded for that year. In 1949 Mires and Garner (Western Mines Company) operated the dredge from March 1 to November 15. There was no production recorded for 1950, and the dredge was taken over by a San Francisco bank in June. In April, 1951, the Alcan Mining Company, Larsen and Harms) took over the operation of the dredge near Big Flat. The gravel at this location was 35 feet deep to a hard gabbro bedrock and there were many boulders and cobbles. The operation was closed down September 15, 1951, and the dredge was purchased and dismantled for scrap in 1955.

North Fork (Hydraulic Hill, Osborne) Placer. Location: secs. 29, 30, 31, 32, T. 34 N., R. 11 W., M.D., on the north bank of the Trinity River, 1 to 2 miles west of Helena. Ownership: W. G. Anderson, Trustee, Farm Road, Sherborn, Massachusetts.

North Fork Placer included patented land within the Hydraulic Hill and Osborne patents and adjoining land on the north side of the Trinity River, 150 to 300 feet higher than the present stream. The gravel bank is 30 to 100 feet high and includes bands of blue sand, clay and gravel 10 to 15 feet thick. In March 1942, the property was leased and operated by Fred Ward, Emil Olson, and Byron Hardin of Helena. Water was brought from the North Fork through 13 miles of flume and pipe and delivered to a hydraulic giant under a 400-foot head. The gravel was washed through 96 feet of sluice boxes 40 inches wide by 36 inches high, fitted with rail riffles. The gold recovered was considered "medium heavy". No gold production has been reported from this property since 1942.

Oregon Gulch Dredging Company Dredge. Location: secs. 7, 8, 9, T. 33 N., R. 10 W., M.D., in Oregon Gulch, about a mile east of Junction City. Ownership:

Photo 14. Oregon Gulch dredge

Oregon Gulch Dredging Company, George A. Milne, President, Fort Jones, California (1951).

The tailings accumulated near the mouth of Oregon Gulch from the operation of the La Grange hydraulic mine were sampled in 1950 and found to contain enough gold to justify installing a dredge to mine them. The Oregon Gulch Dredging Company was organized, and the French Gulch Dredging Company bucketline dredge, which had just completed an operation on Indian Cerek in Siskiyou County, was purchased and set up near the mouth of the gulch. The tailings were found to contain too large a percentage of sand for the tables to handle, and the gold recovery was poor. After only a short operation, the dredge was capsized in a flash flood and the operation was shut down. The dredge was sold to the New York-Alaska Gold Dredging Corporation of Seattle, Washington, in March 1953, and it has been dismantled and moved from this site.

Oro Del Lomas Mining Company. Location: secs. 29, 30, T. 5 N., R. 8 E., H., about a mile above Del Loma. Ownership: Oro Del Lomas Mining Company, c/o B. T. Wilke and Associates, Subway Terminal Building, Los Angeles, California.

In 1949 equipment for a slackline cable excavator was assembled on the west bank of the Trinity River about a mile east of Del Lomas. The equipment included a double-drum hoist equipped with air brakes, a Rix portable compressor, Esco 2-cubic-yard bucket equipped with sheaves for a 2-inch-diameter wire cable, a Worthington 10-inch centrifugal pump, a reel of 1-inch diameter wire rope, and a Caterpillar D-17,000 diesel engine. A 45-foot mast was erected and a cable strung across the river and anchored, but the installation of the excavator was not completed. The equipment has since been removed.

Placer Exploration Company (Sunshine Dredging Company, Viking Dredge) Dredge. Location: secs. 1, 2, 12, T. 32 N., R. 10 W., M.D., near Douglas City, secs. 19, 29, T. 33 N., R. 10 W., M.D., 3 miles south of Junction City, and sec. 32, T. 36 N., R. 7 W., M.D., about 6 miles south of Trinity Center. Ownership: Placer Exploration Company, P.O. Box 498, Chico, California.

The Placer Exploration Company operated three dragline dredges on the Trinity River in 1940-41. One dredge was moved from Reddings Creek near Douglas City in December 1940 and installed on the Trinity River about 3 miles south of Junction City in sec. 29, T. 33 N., R. 10 W., M.D. The Judson-Pacific washing plant was built on a barge 46 feet long and 34 feet wide. The trommel was 5 feet in diameter and 20 feet long, and the stacker belt was 36 inches wide and 50 feet long. The gravel was dug with a Northwest dragline equipped with a 60-foot boom and a 2-cubic-yard bucket. Power for the washing plant was furnished by a D-13000 Caterpillar engine.

Photo 15. Placer Explorotion Compony dredge.

The gravel was about 12 feet deep above a slate bedrock. About 3,000 cubic yards of gravel were washed in a 24-hour period.

In March 1941, the Placer Exploration Company took over the operation of the Viking dredge on the Trinity River near the mouth of Reddings Creek and continued dredging until December 1941.

In May 1941, the Placer Exploration Company moved a dragline dredge from the vicinity of Anderson in Shasta County to a location on the Trinity River, about 6 miles south of Trinity Center in sec. 32, T. 36 N., R. 7 W., M.D. The washing plant was built on seven steel pontoons bolted together to make a barge 57 feet long and 35 feet wide. The trommel was 5 feet in diameter and 42 feet long, with a 30-foot screen section. The stacker belt was 36 inches wide and 80 feet long. Water was supplied by a 10-inch and a 6-inch centrifugal pump driven by a 50- and 10-horsepower motor, respectively. There were ten cross-sluices and two downstream sluices 30 inches wide on each side of the trommel. Power was supplied by diesel-electric plants. Digging was done with a Bucyrus-Monighan dragline fitted with a 4-cubic-yard bucket. Accessory equipment included a RD-8 bulldozer, a 2-ton F.W.D. truck, and a ½-ton Ford pickup truck. The operation at this location was short-lived.

In May 1947, the Placer Exploration Company installed a dragline dredge on the Trinity River in sec. 2, T. 32 N., R. 10 W., M.D., about 1½ miles west of Douglas City on land leased from Carl Tout. This dredge had been operated near Palermo in Butte County before the war. Equipment included a Northwest dragline, Model 85, with a 60-foot boom and a 2-cubic-yard bucket. The old placer tailings at this site were leveled off with a D-8 Caterpillar bulldozer. The gravel was about 12 feet deep above a soft shale bedrock. This dredge was shut down in September 1947 and has since been dismantled.

Rex (Woodbury) Mine. Location: secs. 7, 18, T. 33 N., R. 9 W., M.D., about three-quarters of a mile southeast of Weaverville. Ownership: V. B. Bennett, 211 North 16th Street, Sacramento, California. Leased

Photo 16. Hydraulic giants at the Rex mine.

to Perry T. Bennett, P.O. Box 324, Weaverville, California.

The Rex hydraulic mine includes 42 acres of patented land and three claims located on terraces above the East Fork of Weaver Creek. The gravel is 6 to 15 feet high above a soft conglomerate and sandstone bedrock. Water was taken from the La Grange mine ditch and delivered through 800 feet of 15-inch diameter steel pipe to two No. 3 hydraulic-giants under an 80-foot head. The gravel was washed through 180 feet of 3- by 3-foot sluice boxes lined with pole riffles. The mine was worked by Willis E. Woodbury of Weaverville from 1930 to 1946. In 1943 Woodbury estimated that he mined about 10,000 cubic yards of gravel in a season from which he recovered an average of 50 cents per cubic yard.

In 1947 the property was purchased by V. B. Bennett and leased and operated by his brother, Perry Bennett. About 800 feet of new water-ditch was dug which increased the head at the giants to 100 feet. One giant fitted with a 6-inch nozzle was used to mine the gravel from a bank 12 feet high above a soft sandstone bedrock. The gravel was washed through 96 feet of sluice boxes lined with wood-block riffles. A giant fitted with a 3-inch nozzle was used to stockpile the tailing. In June 1947, Bennett estimated that he was mining about 100 cubic yards of gravel per day which yielded about 50 cents in gold per cubic yard. There has been no production recorded from this mine since 1950.

Sunshine Dredging Company. Location: sec. 2, T. 32 N., R. 10 W., M.D., on the Trinity River near Douglas City. Ownership: R. R. Moore and Ray Nienaber, Box 44, Douglas City, California.

The Sunshine Dredging Company installed a dragline dredge at this location in September 1940. The washing plant was built on a barge 30 feet wide and 35 feet long. The trommel was 4 feet in diameter and 20 feet long with 12 feet of 5/16-inch to ⅜-inch screen. The stacker belt was 30 inches wide and 30 feet long. There were seven cross sluices and two downstream sluice boxes 24 inches wide on each side of the trommel. They were built of steel and lined with steel-shod wooden riffles. Mercury was used in the sluice boxes. Power was furnished by a Cummins 120-horsepower diesel engine, and electricity was supplied by a Palmer 50-kilowatt generator. Digging was done with a P. & H. dragline equipped with a 1¼-cubic yard bucket. Accessory equipment included an International Harvester TD-40 bulldozer and a Lincoln arc-welder.

The gravel was 6- to 10-feet deep above a shale bedrock, and there were many boulders. There were many delays due to breakage and difficulty in obtaining replacement and repair parts. The dredge was idle and offered for sale in October 1941.

Swanson (Hammer, Horseshoe Bend, Maston, Salyer, South Fork) Mine. Location: secs. 13, 14, 15, 21, 22, 23, 24, 25, T. 6 N., R. 5 E., H., about a mile south of Salyer. Ownership: Swanson Mining Corporation, c/o Walter Gleeson, 333 Montgomery Street, San Francisco, California.

The Swanson mine includes 485 acres of patented land and 22 mining locations on terrace gravel lying between the Trinity River and its South Fork. Six benches have been identified between 60 and 1,000 feet above the South Fork. The second and fifth benches have been mined a little, and the third bench, 841 feet above the river, has been mined extensively. The first bench, 60 to 70 feet above the South Fork, and the sixth bench, about 1,000 feet above the river, have not been worked. Mining has been greatly handicapped for lack of an adequate water supply, but the property has been worked intermittently for more than sixty years. Descriptions of early operations may be found in earlier reports of the Division of Mines listed in the bibliography.

The Swanson Mining Corporation operated the mine in 1940 and 1941, but it was idle from 1941 to 1946. A. J. Oyster of San Francisco and his associates obtained a lease and option in 1946 and organized the Salyer Syndicate to equip and operate the property. A new reservoir 35 feet wide, 1,000 feet long, and 5 feet deep was built and water was brought from Campbell Creek through a ditch and flume. Steel sluice boxes 30 by 30 inches in cross section and 60 feet long were built and lined with cross riffles cut from steel rails. The sluice boxes discharged into a wooden frame sluice which widened from 30 inches to 42 inches in a length of 22 feet. The floor of the sluice was built of manganese-steel plates bored with ½-inch holes and covered for a length of 5 feet with manganese-steel bars placed crosswise and spaced at intervals of ½ inch.

Coarse gravel passing through the sluice was discharged over a section of heavy wire screen set on a 45 degree slope. The screen was 10 feet long and had

slots ½-inch wide and 4-inches long. Oversize material was flumed to waste through a sluice 4-feet wide, 6-feet deep, and 6-feet long lined with steel rails laid longitudinally. The undersize material flowed over a series of rubber-covered baffles into a distributing box 4-feet wide and 100-feet long. Baffle boards 4-inches high placed across the distributing box at 4-foot intervals diverted the flow of material into a series of steel pipe 6 inches in diameter. Each pipe fed two sand tables 24 inches wide and 9½ feet long fitted with Hungarian riffles. There were 32 sand tables. The riffle concentrates were run through a Peterson jig and the jig concentrate was amalgamated and retorted. A small amount of the platinum metals was recovered with the gold.

The gravel bank at the upper pit was about 180 feet high above a shale bedrock. It was composed mostly of fine, loose, red-colored material. Mining was done by pumping water through a hydraulic giant fitted with a 4-inch nozzle. In October 1946, five men were employed, and there was water sufficient to mine only two hours per day. It was estimated that 200-cubic yards of gravel were mined per hour.

In February 1947, sixteen men were employed mining the third bench on two shifts per day. Two giants fitted with 4- and 5-inch nozzles were used. The pit bank was 40 feet high and included 15 feet of gravel covered by red soil. The water was delivered to the giants under 80 pounds pressure, and about 3,000 cubic yards of material were mined per day. The operation was continued here until February 1949.

In January 1950, a partnership including E. G. Lorenz, Robert T. Oyster, and Richard Garrett of Salyer operated the number two bench under a percentage lease. The gravel was 40 to 70 feet high above a bluish-gray schist. There were a few boulders of diorite and hornblende schist. The hydraulic giant was fitted with a 6-inch nozzle and water was pumped to the giant at 80 pounds pressure. The partners worked one season. There has been no production reported from this mine since 1950.

Thompson Divide Mining Company. Location: sec. 11, T. 36 N., R. 7 W., M.D.; on the East Fork of Trinity River at Squirrel Gulch, sec. 8, T. 33 N., R. 8 W., M.D.; on the Trinity River about 1½ miles north of Lewiston, and sec. 33, T. 35 N., R. 8 W., M.D.; on the East Fork of Stuart Fork about 3½ miles north of Minersville. Ownership: Thompson Divide Mining Company, Reno, Nevada.

The Thompson Divide Mining Company operated three dragline dredges in Trinity County between 1946 and 1948. A dredge was operated on the East Fork of Trinity River at Squirrel Gulch in 1946. The washing plant was built on six steel pontoons making a hull 40 feet long, 30 feet wide, and 3 feet deep. The trommel was 5 feet in diameter and 32 feet long with 20 feet of ¾-inch screen. The stacker belt was 30 inches wide and 35 feet long. There were eight cross sluices and three downstream sluices on each side of the trommel. They were fitted with Hungarian riffles and lined with expanded metal over burlap. Water was supplied by a 6-inch centrifugal pump. Power was furnished by a Caterpillar RD-7 diesel engine. The gravel was 3 feet deep to a slate bedrock. Digging was done with a P & H dragline fitted with a 50-foot boom and a 1½-cubic yard bucket. The dredge was idle on June 5, 1946, and the crew was engaged in testing gravel at the mouth of Van Ness Creek. In July, 1946, the dragline and bulldozer were moved to the East Fork of Stuart Fork in sec. 33, T. 35 N., R. 8 W., M.D.

On April 9, 1947, the Thompson Divide Mining Company dredge No. 2 started operating on the Trinity River about a mile and a half north of Lewiston, in sec. 8, T. 33 N., R. 8 W., M.D. The ground was leased from Sam Sorenson of Oakland. The gravel was 15 to 25 feet deep above a layer of cement gravel 2 to 11 feet thick. The dredgemaster said that a layer of gravel 4 to 6 feet deep between the cement gravel and bedrock contained about $5.00 in gold per cubic yard. Some digging was done with a P & H dragline equipped with a 2-cubic-yard bucket, but the P & H was replaced with a Bucyrus-Erie 120-B dragline in April. The new dragline had a 90-foot boom and was equipped with a 3½-cubic-yard bucket and a 200 horsepower engine. Electric power was purchased from the Pacific Gas and Electric Company.

The washing plant was built on seven steel pontoons making a hull 48 feet wide and 64 feet long. Two additional pontoons, each 4- by 4- by 16-feet were added on each side. The trommel was 5 feet in diameter and 40 feet long with 30 feet of screen. The stacker belt was 36 inches wide and 115 feet long. There were twelve cross sluices and three downstream sluices on each side of the trommel. They were fitted with Hungarian riffles. The dredge operated on three 8-hour shifts with a total of 23 men employed. The layer of cement gravel was drilled with a wagon drill. Holes were spaced at 6-foot intervals and blasted with 25 percent Atlas stump powder. The gravel broke fine enough to release some of the gold, but not enough to compensate for the extra cost. In September 1947, the dredge was moved to the north side of the Trinity River, and the dragline was equipped with a 5-cubic-yard bucket. The gravel was 13 feet deep above a decomposed diorite bedrock. About 3,000 cubic yards were washed per day.

In July 1947, the Thompson Divide Mining Company dragline dredge No. 1 was operating on the Nugget placer in sec. 22, T. 35 N., R. 8 W., M.D., which was leased from L. A. Grange. The washing plant was built on five steel pontoons making a hull 30 feet wide and 40 feet long. The trommel was 54 inches in diameter and 22 feet long with 16 feet of screen. The stacker belt was 36 inches wide and 50

feet long. There were eight cross sluices and two downstream sluices 26 inches wide on each side of the trommel. They were fitted with Hungarian riffles and mercury was added at the head of each sluice. Wash water was supplied by a 6-inch centrifugal pump. Power was furnished by a D-11,000 Caterpillar diesel engine. The gravel was about 13 feet deep above a soft black slate bedrock, and there was 4 to 12 feet of overburden. Digging was done with a P & H dragline equipped with a 50-foot boom and a 1¼-cubic-yard bucket. The dredge was operated on three 8-hour shifts with a crew of 14 men. The gravel was prospected by drilling 6-inch holes 22 to 50 feet deep to bedrock with a Keystone drill. Holes were spaced 200 to 500 feet apart, and the material taken from the holes was washed in a rocker and panned to recover the gold. This dredge was idle in 1948.

In April 1949, O. A. Herbert, former dredgemaster of the Thompson Divide Mining Company dredge No. 2, leased dredge No. 1 and operated under a royalty for a short time. These dredges have not operated in Trinity County since 1949.

Tinsley and Treloar (Fortune Teller, River, T and T, Wild Bird) Mine. Location: sec. 5, T. 33 N., R. 12 W., M.D., on the south bank of the Trinity River near Big Bar. Ownership: H. E. Nichols, 8773 Lookout Mountain Avenue, Hollywood 46, California. Leased to Perry T. Bennett, Big Bar, California, November 1944 to June 1945.

This property consists of terrace gravel located on the south side of the Trinity River across from Big Bar, California. The gravel bank was about 20 feet high above a gray slate bedrock, and there was about 70 feet of overburden and some heavy boulders requiring blasting. Water was brought from Price Creek through about a mile of 18-inch diameter steel pipe and delivered under 25 pound pressure to two giants fitted with 5½ and 6-inch nozzles. The material was washed through 450 feet of sluice boxes 32 inches wide and 24 inches deep, lined with block riffles. The mine was worked on one shift by Perry Bennett and two helpers. From January 1, 1945, to June 1, 1945, the recovery of 125 ounces of gold and 14 ounces of silver were reported from washing 9,367 cubic yards of gravel.

Uphill Mining Company. Location: sec. 1, T. 34 N., R. 11 W., M.D., on Canyon Creek about 3 miles south of Dedrick. Ownership: Land is owned by Canyon Creek Development Company, 3532 Ardley Avenue, Oakland, California. In November 1949, the property was leased to the Uphill Mining Company, a partnership composed of V. B. Bennett, L. A. Hallstrom, and George Waugh of Sacramento, California.

The gravel along Canyon Creek was 4 to 15 feet deep above a greenstone bedrock. There were many cobbles of granite diorite, and schist. In November 1949, the Indian Creek dredge was moved from Indian Creek near Douglas City to this site which was leased from the owners. The operation was short-lived for the gold recovered averaged only about 4½ cents per cubic yard.

In July 1950, the dredge and equipment were moved to the Hornet Bar placer on the Trinity River in sec. 29, T. 34 N., R. 11 W., M.D., about a mile southwest of Helena. The property was leased from W. P. Anderson and associates. The gravel was 9 to 11 feet deep to a greenstone bedrock, and there were many cobbles of quartzite. The dredge was operated on one shift with a crew of four men for about a month. In October 1950, the dredge was swept downstream and wrecked by a flood.

IRON

Development of iron deposits in Trinity County has been handicapped by the high cost of transportation to markets. Much magnetite float is found in several sections on the north slope of Chanchellula Peak, about 11 miles southeast of Hayfork, and outcrops of magnetite 4 to 5 feet wide have been noted. A carload of magnetite shipped in 1956 from the Hill Top mine, about 4 miles northeast of Carrville, assayed 63.68 percent iron, 0.012 percent phosphorous and 0.018 percent sulfur. Trucking costs to the railroad at Delta must have been high, for the deposit has since been idle.

LEAD

Lead production from Trinity County has been entirely the result of by-product recovery from lode gold and copper ores. Goodwin (1957) lists nine mines in which galena is known to occur in small but recoverable amounts. Concentrates shipped from the Geneva gold mine in 1935 contained 6.16 percent lead, and ore from an unnamed gold mine in T. 36 N., R. 8 W., owned by C. B. Demerest in 1933, contained 3.1 percent lead. Small amounts of lead were produced from Trinity County in 1932-33, 1935-36, and 1941-42.

LIMESTONE

Limestone in Trinity County has received little attention in the previous reports. This is partly because of the lack of geologic information in the region and partly because of the remoteness of all deposits from the major metropolitan marketing areas and from the nearest major rail head (Eureka to the west and Red Bluff or Redding to the east). Plate 1 shows the location of major limestone deposits in Trinity County with respect to road and highway arteries, and mountain passes that must be traversed to reach these arteries and major shipping points.

A brief description of deposits is deemed desirable, to define the quality and extent of deposits that do exist and to define the relation of these deposits with respect to proposed engineering projects or future projects that might affect the limestone deposits or might utilize limestone for riprap or other local use.

Limestone deposits in Trinity County are largely limited to the central and northwestern portion of the County. Most of the deposits may be related to three or probably four, crudely defined stratigraphic horizons, ranging from Devonian (and pre-Devonian ?) to Triassic in age. Structurally, these stratigraphic horizons crop out along lithic belts, each belt being faulted up and/or thrust over the adjacent belt to the west.

The eastern Paleozoic belt of rocks is generally devoid of limestone in Trinity County. Only one deposit has been reported in rocks possibly related to this belt. It is in the vicinity of Oregon Gulch west of Weaverville.

Westward, the central metamorphic belt contains "micaceous marble", commonly as small lenses, near the base of the Abrams formation (Irwin, 1963).

The eastern portion of the western Paleozoic and Triassic belt of rocks contains two stratigraphic limestone horizons. A Devonian (?) horizon which crops out along the western portion of the belt and a Permian (?) horizon cropping out mainly in the southern and possibly in the northeastern portion of the belt.

The Devonian (?) limestone is in general somewhat darker, more dense, and carbonaceous, than other limestones of the Klamath Mountains. Best exposures of rocks tentatively assigned to this stratigraphic unit crop out west of New River, near Del Loma, and on a ridge trending northwest from Hayfork Bally. The Devonian deposits typically dip steeply, though near the batholith contact the deposit west of New River dips to the west at an angle of only 50 degrees.

Limestone of late Pennsylvanian or Permian age crops out in isolated occurrences over a wide area immediately west of the Hayfork Divide. The limestone tends to show solution crevices near the top and bottom but the central portion of the formation is typically massive and cliff-forming. Exposures are usually gently dipping except near major fault zones. Dolomite is common in brecciated areas near some faults, especially in the Barker Creek deposit, in the southernmost of the two Potato Creek deposits, and locally in the Byrons Creek deposit.

Thrusting is postulated relative to these deposits for several reasons: 1) Flat fault planes were seen by the writer in roadcuts at Wilson Point and northeast of Barker Mountain, and Irwin (1963) shows several near the Byrons Creek deposit; 2) The flat-bedding dips are structurally anomalous to this region, except to the northeast where thrusts are also postulated (Irwin, 1963). Limestones and other stratified rocks to the west, northwest, and southeast are steeply dipping; 3) The gently dipping Potato Creek deposits lie at or near the granitic contact; yet a brief reconnaissance revealed no sign of intrusion or contact metamorphism. The flat-lying structure appears to be strongly discordant with structures within the pluton.

The western portion of the western Paleozoic and Triassic belt of rocks contains two discontinuous belts of limestone, judged to represent a single stratum of Triassic limestone duplicated by folding. The limestone crops out most prominently north of Forest Glen and south of Hyampom but extends northwest to Willow Creek, Humboldt County, and southeast beyond North Yolla Bolly, Tehama County. Typically, the deposits are composed of gray-white, high grade limestone which consistently weathers to a pale blue-gray rock with a pitted or pocketed surface. Brecciation, including micro-brecciation and shearing, is intense in deposits near the South Fork Mountain schist belt, which borders the western Paleozoic and Triassic belt on the west.

Barker Creek. Location: secs. 16, 17, T. 32 N., R. 11 W., M.D. Deposits of limestone and dolomite crop out in the canyon of Barker Creek forming large cliffs. Exposures range up to 200 feet in thickness, 1500 feet in width, and half a mile in length; they dip moderately south. Although large, the deposits are believed to be too impure to be of commercial interest for chemical usage. Selective mining would not be economically feasible in this remote locality. A typical sample yielded the following analysis:

SiO_2	1.7%
Al_2O_3	.46
Fe_2O_3	.26
MgO	8.3
CaO	42.5
K_2O	.13
P_2O_5	.13
I.L.	44.3
Total	97.78%

Barker Mountain. Location: sec. 32, T. 33 N., R. 11 W.; sec. 5, T. 32 N., R. 11 W., M.D. Limestone crops out at an elevation of 4500-4800 feet on a small mesa located northwest of Barker Mountain. The deposit is estimated to be 600 by 1200 feet and 150 feet thick. The outcrop was not visited but is believed to be too small to be worked commercially unless mined in conjunction with neighboring deposits.

Bridge Gulch. Location: sec. 34, T. 31 N., R. 11 W. (projected), M.D. Two deposits of Permian (?) limestone crop out in Bridge Gulch. One deposit occurs at Natural Bridge and a smaller deposit occurs half a mile to the north on the north side of the canyon. The small deposit is about 1000 feet long, 150 feet thick and dips into the hill. It overlies greenstone. The deposits are undeveloped and remote from metropolitan markets. No local market is apparent. A sample taken from the large deposit gave the following analysis:

SiO_2	.97%
Al_2O_3	.04
Fe_2O_3	.03
MgO	.26
CaO	55.25
P_2O_5	.12
Ign. loss	43.14
Total	99.81%

Byrons Creek. Location: secs. 22, 27, T. 31 N., R. 10 W., M.D. This deposit at an elevation of 3700-4200 feet caps a mesa north of the east fork of Hayfork Creek, opposite the mouth of Byrons Creek. This is a light gray, massive, cliff-forming deposit with nearly horizontal bedding. It covers an area about 2000 by 4000 feet, is about 200 feet thick, and is flanked on the north, east, and west by smaller outcrops of limestone. The deposit is slightly faulted and is generally believed to be of good grade except near the fault zones where it may be dolomitic, as in sample #2, below:

Sample #1 (Composite from NW face)		Sample #2 (Composite from SE face)
.84%	SiO_2	.60%
.00	Al_2O_3	.00
.07	Fe_2O_3	.13
.30	MgO	3.7
54.4	CaO	51.2
.00	K_2O	.00
.08	P_2O_5	.10
43.5	Ign. loss	44.0
99.19%	Totals	99.73%

Cave Creek. Location: sec. 12, T. 1 S., R. 7 E., H. The Cave Creek deposit, 1 to 2 miles north of Forest Glen, occurs as a steeply dipping lens of limestone over a mile long and over 100 feet thick. It ranges in elevation from 3100 to 3400 feet. Similar, smaller deposits occur 1½ miles eastward on Rattlesnake Creek and 1½ miles northward at Copper Hill. A potential damsite opposite Kingfisher Point about a mile downstream from Forest Glen might furnish a local demand for riprap. This is the only likely commercial outlet for this deposit in the foreseeable future.

China Gulch. Location: secs. 26, 35, T. 31 N., R. 11 W., and sec. 2, T. 30 N., R. 11 W., M.D. Two limestone deposits crop out along Hayfork Creek near China Gulch at an elevation of 2650 feet. The deposits are believed to lie in or adjacent to a fault zone paralleling the creek. The production of any appreciable tonnage would require mining below creek level in an indeterminate structure. The location of these deposits is remote.

Del Loma. Location: secs. 23, 24, 25, T. 5 N., R. 7 E., and sec. 30, T. 5. N., R. 8 E., H. Small lenses of limestone crop out near Del Loma and south of Little Swede Creek. Limestone appears to be absent in the drainage of Italian Creek and Big Creek, thereby separating these deposits from limestone cropping out on the New River to the north-northwest.

The largest deposit is composed of steeply dipping gray limestone about 30 feet wide, with possible local thickening due to folding and faulting. The deposits are of small size and remote. The caverns at Del Loma are valuable as a tourist attraction.

Dutch Creek. Location: sec. 35, T. 33 N., R. 11 W., and sec. 11, T. 32 N., R. 11 W., M.D. A small east-dipping lens of Permian (?) limestone less than 1500 feet long crops out near the headwaters of Dutch Creek. Over a mile to the southwest, a second smaller lens of dolomitic limestone crops out.

Hall City Cave. Location: secs. 28, 29, 32, 33, T. 30 N., R. 10 W., M.D. Three major deposits and two lesser outcrops of Permian (?) limestone occur near this locality. Greenstone is the principal country rock. Serpentine is intruded along a fault zone which bounds the two southernmost deposits on the southwest. The westernmost deposit, near Wilson Point, is composed mainly of coarse limestone breccia. It consists of gray-white fragments of crystalline limestone in a dark gray limestone matrix. An analysis of the breccia shows:

SiO_2	.55%
Al_2O_3	.00
Fe_2O_3	.07
MgO	.34
CaO	53.9
K_2O	.00
P_2O_5	.18
Ign. loss	43.5
Total	98.54%

Although this limestone is more accessible to the Sacramento Valley than any other deposit in the county it is still remote from metropolitan markets. A large cave at the southeast contact of the southernmost deposit has some possibilities as a tourist attraction.

Hyampom. Location: sec. 36, T. 3 N., R. 6 E., and sec. 1, T. 2 N., R. 6 E., H. Several lenticular, gently dipping masses of limestone crop out at river level and in the nearly vertical walls of the gorge of the South Fork of the Trinity River from one to two and a half miles south of Hyampom. The limestone probably occurs in a narrow, down-dropped fault block at this locality. Horizontal shear and breccia zones in the limestone and country rock, and recrystallization of the limestone suggest appreciable deformation.

The limestone varies from dark gray to light gray and appears to be of good quality. Mining by surface methods would be difficult owing to the extremely rugged terrain. The deposit would be largely flooded by the proposed Eltapom reservoir. A sample from the southwest lens yielded the following analysis:

SiO_2	1.1%
Al_2O_3	.08
Fe_2O_3	.10
MgO	.42
CaO	51.0
K_2O	.00
P_2O_5	.12
Ign. loss	43.4
Total	96.22%

New River. Location: secs. 18, 19, 30, 31, T. 7 N., R. 7 E., and secs. 6, 7, T. 6 N., R. 7 E., H. (projected). A belt of limestone extends northward from Panther Creek Campground on New River for more than 5 miles along the ridge east of Panther Creek and terminates against the Ironside Mountain batholith near the county line.

The limestone is gray to dark gray, finely crystalline and weathers medium gray. It is vertical or steeply dipping except at the northern end where it dips 50° westward into the batholith. The estimated minimum thickness is 200 feet. The deposit is extremely isolated. A composite sample collected along the banks of the New River ran:

SiO_2	1.3%
Al_2O_3	.12
Fe_2O_3	.10
MgO	.92
CaO	52.1
K_2O	.00
P_2O_5	.01
Ign. loss	43.5
Total	98.05%

Potato Creek. Location: secs. 6, 7, T. 30 N., R. 10 W., M.D. Two gently dipping deposits of dense, gray, cliff-forming limestone crop out on the mesas west of Potato Creek.

The northernmost deposit is 200 feet thick and lies on granitic rock, possibly in thrust contact. It is estimated the deposit contains over 12 million tons of limestone.

The southernmost deposit is 1500 feet long and about 200 feet thick. It is faulted, being downdropped on the west, giving the deposit an appearance of greater thickness as seen from the Wildwood-Hayfork road (one mile to the west). Dolomitization is common near the fault zone. The underlying rocks are chert and greenstone, which are believed to rest on granite. It is estimated that the southern deposit contains 40 million tons of carbonate rock, an undetermined portion of which is dolomite. The deposits are remote and no local markets are apparent. A composite sample taken near the fault zone in the southern deposit checked out as follows:

SiO_2	.51%
Al_2O_3	.26
Fe_2O_3	.11
MgO	2.6
CaO	51.5
K_2O	.03
P_2O_5	.32
Ign. loss	43.4
Total	98.73%

Prospect Creek. Location: secs. 16, 17, 21, 27, T. 28 N., R. 11 W., M.D. A series of steeply dipping limestone lenses cross the mouth of Texas Chow Creek near Prospect Creek and extend to the ridge top two miles to the northwest. The largest lenses occur near the northwest end, where the deposit crops out for a maximum width of nearly 200 feet over a length of less than a mile.

The limestone is light gray, dense, and weathers to a light bluish gray, pitted or pockety surface. Brecciation and shearing are common. The deposit is extremely isolated and is separated from the community of Wildwood to the north by a 4950-foot pass. A composite sample collected at the widest portion of the deposit ran as follows:

SiO_2	.60%
Al_2O_3	.00
Fe_2O_3	.07
MgO	.77
CaO	52.4
K_2O	.00
P_2O_5	.03
Ign. loss	43.4
Total	97.27%

A small limestone deposit about 600 feet long crops out on the divide 3 miles north of the Prospect Creek deposit. It is slightly more accessible.

MANGANESE

More than 100 manganese deposits containing oxides, carbonates or silicates are known in Trinity County, more than in any other county in the State. Although only about a dozen of these deposits produced ore, some of it has been extremely high grade, making Trinity the principal source of high grade lump ore in northern California. Total ore production in the county is about 20,000 short tons.

Most of the productive deposits are located near Alderpoint and along the Mad River in the Coast Ranges province in the southern quarter of the county. Here, the manganese ore occurs in chert of the Franciscan formation. The deposits are folded and faulted and the best ore consists of brown or black manganese oxides which are found near the surface, extend only to shallow depths and are quickly mined out. Some of the deposits are characterized by the presence of haus-

mannite an extremely high grade manganese oxide. It is a fine-grained, reddish-brown mineral which so closely resembles chert that it is often overlooked or discarded as worthless by inexperienced prospectors and miners.

Deposits in the Trinity River basin in the Klamath Mountain province occur in two northwest trending belts of chert. These deposits are siliceous and generally of low grade. Few deposits in this area have produced ore.

Mining is done in open pits by stripping the overburden from the manganese lenses with bulldozers, drilling and blasting when necessary, sorting and loading the lump ore into trucks, and hauling the ore to the railroad. Most of the ore was mined during periods of national emergency, World War I (1914-18), World War II (1941-45) and the Korean War period (1951-59), when premium prices were paid for strategic minerals. The bulk of the ore mined was shipped to government depots, but some high-grade ore was shipped in carload lots directly to consumers in the eastern United States.

Armstrong No. 2 and 3 (Savage No. 2 and 3, Three Rattles and a Button) Mine. Location: sec. 19, 20, T. 3 S., R. 8 E., H., about 13 miles south of Forest Glenn. Ownership: Ann Anderson and Robert Hill. Leased to the Mad River Manganese Company, Clarence and Howard Frey, Ruth, California.

Lenses of black manganese oxide are associated with red, green and white chert in the Franciscan formation. On the Armstrong No. 2 claim, the manganese lens is about 30 inches wide, strikes north and dips 42° E. The deposit was prospected by a number of shallow cuts and a 6- by 8-foot shaft 20 feet deep. The Armstrong No. 3 claim was prospected by two open cuts about 30 feet long in an easterly direction and with a maximum depth of 28 feet. The manganese lens is 12- to 36-inches wide, strikes north and dips 45° E. No production was reported by the Victory Mines Company which leased the property in 1942.

J. H. Trisdale and Thomas C. Farley obtained a lease on these claims in 1944 when they were called the Savage No. 2 and 3 claims. A portable compressor was moved to the site and the property was prospected with trenches. No commercial ore was developed.

The property was leased by Clarence and Howard Fry of Ruth in 1953 and called the Three Rattles and a Button. Clarence Fry stated that they shipped two carloads of ore assaying 37 and 42.8 percent manganese to Wenden, Arizona, in 1954. The property has been idle since 1954.

Barry Creek Mine. Location: sec. 18, T. 27 N., R. 12 W., M.D., about 11 miles southeast of Ruth. Ownership: Ann Anderson, Ruth, California.

Black manganese oxides, and manganese stained chert occur in lenses in the Franciscan formation. Walter Wells and Pat Jordan of Redding, California, shipped 40 tons of ore averaging 50.6 percent manganese in 1955, and in 1956 the Pearson Mining Company mined and shipped 48 tons of sorted ore averaging 48 percent manganese from an open pit on this deposit. There has been no production reported since 1956.

Blue Jay (Blue Bird, McKnight) Mine. Location: secs. 8, 17, T. 26 N., R. 12 W., M.D., about 16 miles southeast of Ruth. Ownership: F. A. Stockel, Garberville, California, and associates.

The Blue Jay mine has been one of the principal producers of high-grade lump manganese ore in California. The property has been mined by a number of lessees on a royalty basis. In March 1942, the James I. Scott Company of Fortuna, California, obtained a lease on the property. An access road about 4½ miles long was built to the deposit from the Three Forks on the Mad River road. Equipment included a Cleetrac Bulldozer, a portable air compressor, Koehler 800-watt generator, rock drills, drill steel, and hand tools. Number 3 adit was driven for a length of 165 feet on a lens of manganese 30 inches to 6 feet in width striking N. 30° W., and dipping 60° NE. between chert walls. The ore was stoped to the surface above this adit. Number 2 adit was located about 30 feet south of Number 3 and was driven N. 55° W., 130 feet in ore. The ore was 30 inches to 4 feet thick and dipped 70° NE. with both walls a mixture of black manganese oxides and red chert. The ore was stoped to an average height of 30 feet. The manganese minerals were chiefly psilomelane and pyrolusite, but included some hausmanite, rhodochrosite and bementite. Some copper minerals including native copper, cuprite, and malachite were observed on the surface southwest of the manganese ore bodies. The James I. Scott Company shipped about 3,000 tons of ore averaging 50 percent manganese up to October 1943.

In October 1943, the lease and operation was taken over by J. P. Warren, 605 Market Street, San Francisco, California. Warren stripped an average thickness of 30 feet of sandstone and banded chert from the manganese lenses and converted the operation into an open pit mine. On the ridge west of the old adit portals, a flat lens of ore about 5 feet thick was mined from an area 60 feet wide and 75 feet long. The sorted ore averaged about 53 percent manganese and 10 percent silica.

The Blue Jay mine was idle from 1946 to 1952 when the Lincoln Gold Dredging Company, E. M. Clark, and Raymond Pearson mined and shipped some ore from the open pit.

In December 1952, the K.P.F. and F. Mining Company was organized with Mike Kassis, James D. Fiske, and Leland Pearson of Redding as limited partners, and Raymond Pearson of Igo and Edward Fulton of Fortuna, as general partners. They took over the lease and operation of the Blue Jay, Bonanza, and Lucky Sunday deposits owned by Frank Stockel and associ-

ates. The open pit operation at the Blue Jay mine was continued, and sorted lump ore was hauled in trucks about 130 miles to the railroad at Redding. Some high-grade ore was shipped in carload lots to consumers in the east, but most of the ore was shipped to the government depot at Wenden, Arizona. The Blue Jay mine was idle in May, 1954, but a lens of ore about 4 feet thick was exposed in the west face of the pit which had been mined to a depth of about 30 feet over an area about 175 feet wide and 200 feet long. The last production from the Blue Jay mine was in 1955.

Coldwater No. 1 and 2 Mine. Location: sec. 5, T. 4 S., R. 6 E., H., about 5 miles southeast of Alderpoint. Ownership: patented land owned by the William White Estate. Leased to Ray Helmke of Alderpoint, California, in 1943.

Lumps of manganese oxide were mined from pods in a loose red soil, probably landslide debris. The manganese was associated with fragments of red chert. The ore was hand sorted from material mined from cuts with a bulldozer, loaded into trucks and hauled to the railroad at Alderpoint. These deposits yielded about three carloads of ore which assayed 54 percent manganese and 13 percent silica.

Double A Prospect. Location: sec. 16, T. 3 S., R. 8 E., H., about 9 miles southeast of Ruth. Ownership: Ann L. Anderson, Harvey J. Anderson, and Robert Hill of Ruth, California. Leased to the Victory Manganese Mines of Los Angeles, California in 1942.

A heavy, brownish black mineral, probably hausmannite, occurs in lenses up to 2 feet thick, striking northeast and dipping about 45° E. The manganese is associated with thin-bedded red chert. The property was prospected with shallow cuts and pits. No production was reported until 1944, when J. B. (Bill) Girdner leased the deposit and shipped 87 tons of sorted ore averaging 39 percent manganese. There has been no production reported since 1944.

Griffiths (J.K.) Mining and Development Company (Promise) Mine. Location: sec. 18, T. 2 S., R. 8 E., H., about 3 miles southeast of Ruth. Ownership: Ann Anderson and Joseph H. Hope, of Ruth, California.

A band of black manganese oxides, 3 to 4 feet wide was exposed for a length of 15 feet on the surface of the Promise claim. The manganese minerals lie between layers of chert and shale of the Franciscan formation. A trench on the Humming Bird claim exposed a ledge of black manganese oxides 3 feet wide for a length of 20 feet. The property was equipped with a Gardner-Denver portable air compressor, a jackhammer, drill steel and hand tools. A production of 100 tons assaying 47 percent manganese and 16 percent silica was reported in 1944. Two men were employed.

Hale Creek Mine. Location: sec. 23, T. 1 S., R. 6 E., H., about 6 miles northwest of Ruth. Ownership: Ray F. Helmke, c/o Bradley and Ekstrom, 24 California Street, San Francisco, California.

The Hale Creek mine was located by S. Hutchins and H. T. Moore of Ruth. In 1941 the property was leased by Sid Killingsworth of Chico, and in 1943 to August 1944 by the Western Metals Company of San Francisco. In August 1944, Ray F. Helmke of San Francisco purchased the property and mined the ore remaining in the deposit. The deposit yielded about 4,000 tons of ore which averaged 42 percent manganese and 21 percent silica.

A lens of rhodochrosite, bementite, and hausmannite 3 to 10 feet thick extended in a N. 45° E. direction for a length of about 175 feet. The lens was inclosed in chert and sandstone of the Franciscan formation. The deposit was mined by stripping the overburden of sandstone and chert from the ore with a bulldozer, loading seams and cracks or drill holes with dynamite and blasting. The broken ore was shoveled into wheel barrows and dumped into an ore bin. Trucks hauled the ore to the government depot at Arcata.

Manganese Queen Mine. Location: sec. 26, T. 30 N., R. 12 W., M.D., about 4 miles south of Peanut. Owner: Charlie Crews, Hayfork, California. Leased by A. Granzotto, P.O. Box 224, Lafayette, California, in 1942.

Black manganese oxides with gray and pink manganese carbonates and silicates occur in a ledge 4 to 15 feet wide striking northwest between steep walls of shale and quartzite. The ore was mined by stripping the waste rock from both sides of the ore with a bulldozer, drilling and blasting the ore and loading it into trucks with a Trackson loader. The carbonate ore was hauled 75 miles to Redding where it was crushed to minus ¾-inch and shipped to a roasting plant in Richmond that was leased from the Western Zinc Oxide Company. It consisted of a small rotary kiln about 30 feet long, fired by fuel oil. The calcined material was shipped to the Metals Reserve Company at Sacramento. In 1943 some manganese oxide ore was shipped to the government depot at Anderson.

In 1954 Ted Webb and Don Johnson of O'Brien, Oregon, mined and shipped about 10 tons of carbonate ore from this deposit to the government depot at Wenden, Arizona. The property has been idle since.

Old Bill (Johnson, Lucky Bill) Mine. Location: sec. 9, T. 28 N., R. 11 W., M.D., about 6 miles southwest of Wildwood. Ownership: Thomas E. Reynolds, 711 Second St., Davis, California.

Gray and pink manganese carbonate and some black manganese oxides occur in lenses 3 to 4 feet wide, 25 to 30 feet long, and about 5 feet deep. The walls were greenstone.

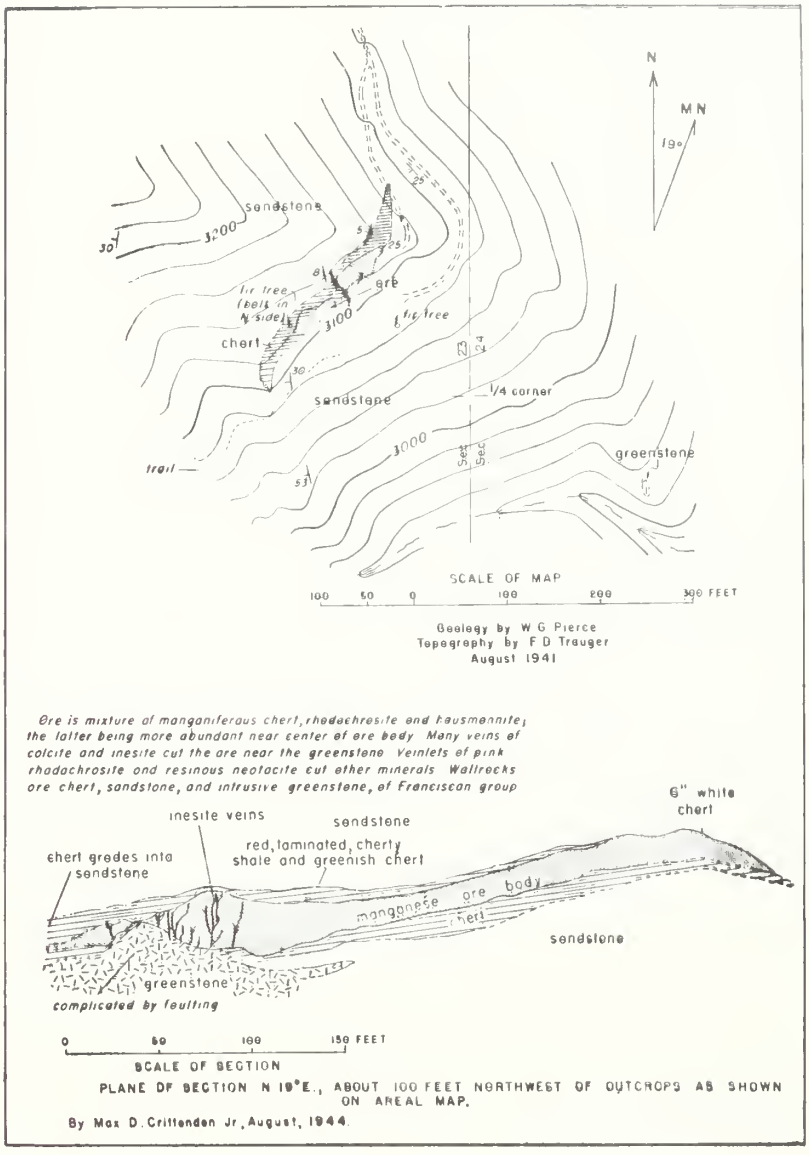


Figure 3. Geologic map and section of the Hole Creek mine, Trinity County. *Reprinted from California Division of Mines Bulletin 152, page 316.*

Ore was mined here by the Noble Electric Steel Company in 1914-18. Hard black oxide and pink carbonate ore was exposed by eight shallow cuts for a length of 600 feet in a N. 52° W. direction. It was relocated in 1941, but no production resulted. In July 1944, three men were mining a lens about 25 feet long that trended in a N. 70° W. direction. The ore was about 4 feet thick in the middle and tapered to a width of 12 inches on the ends. The lens was worked to a maximum depth of 20 feet and appeared to be pinching out. About 40 tons of ore was stockpiled for shipment to the government depot at Anderson.

Shell View Deposit. Location: secs. 16, 17, T. 4 S., R. 6 E., H., on the White Ranch, about 7 miles southeast of Alderpoint. Ownership: William P. White Estate, Alderpoint, California. Leased to R. F. Helmke, Garberville, California, in 1942.

Black manganese oxides and pink and gray manganese carbonate are associated with bands of chert in the Franciscan formation. The ore was mined to a depth of 12 to 14 feet from two parallel lenses 2½ to 4 feet wide. A carload of ore was shipped to the government depot at Sacramento in 1943. No production has been reported since 1943.

Trout Creek, 1, 2, 3 Mine. Location: sec. 9, T. 26 N., R. 12 W., M.D., about 16 miles southeast of Ruth. Ownership: Alton Illiff, Ruth, California. Leased to the Raymond Pearson Mining Company of Igo, California, 1954-56.

A ledge of manganese oxides and carbonate about 4 feet wide strikes north and dips 45° W. into the hill. The deposit was mined from an open pit by stripping the red chert and shale from the manganese ledge with a bulldozer. The manganese ore was drilled, blasted, sorted and loaded into trucks and hauled to the railroad at Redding. On July 25, 1956, the pit was about 250 feet long, 100 feet wide and there was about 40 feet of overburden. Several carloads of ore averaging 48 to 52 percent manganese were mined from this pit between 1954 and 1956; it was shipped to the government stockpile at Wenden, Arizona. The deposit has since been idle.

MINERAL PAINT

Only two occurrences of material suitable for use as mineral paint have been noted in Trinity County. Both are about 4 miles north of Minersville and consist of a red ochre. The Bowerman deposit yielded material that was used locally prior to 1905.

MINERAL SPRINGS

Sulfurous mineral springs in Trinity County have been noted at Deerlick Springs north of the Harrison Gulch Ranger Station; along Browns Creek 1 mile and more downstream from Deerlick Springs; and in the northeastern part of the county near the Altoona mine. Only the Deerlick group of five cold springs has been developed by the addition of camp sites with tables, benches, and fireplaces.

MOLYBDENUM

Occurrences of molybdenum minerals have been reported from two localities in the county (Logan, 1926, p. 63-64). Molybdenite and molybdite have been found along Grass Valley Creek 3 miles south of Lewiston, probably in sec. 31, T. 33 N., R. 8 W., M.D. Molybdenum together with quartz and pyrite is reported from near Helena. There has been no development of or production from these localities.

PHOSPHATE

Abstracted from an article by Philip A. Lydon in Mineral Information Service, May 1964

Just north of the small settlement of Hyampom in western Trinity County, there occurs a group of rocks that constitute both an intriguing geological puzzle and a potentially economic mineral resource. In the Weaverville formation, a peculiar rock of basaltic appearance, possibly formed by the natural fusion of siliceous shale by a burning coal bed, intrudes sedimentary rocks that locally contain more than 20% P_2O_5. The "fused slag" is worthy of note not only because of its unusual mineralogy and chemical composition, but because much of it also contains a significant quantity of phosphorus. The phosphatic sediments were not previously known to exist in Trinity County until identified by a geochemist of the California Division of Mines and Geology in 1963.

Geology. The Weaverville formation of Oligocene age consists of a moderately thick sequence of well- to loosely consolidated conglomerate, pebbly sandstone, clay, and shale. MacGinitie (1937, p. 97), who has prepared a detailed study of the Weaverville Formation, states that a coal bed 10 to 16 feet thick is continuous under the main body of Weaverville sediments in Hyampom Valley. The Weaverville formation occupies a basin eroded from older metamorphic rocks and serpentine, and itself has been gently folded and extensively eroded to form the present-day Hyampom Valley.

Both the phosphatic sediments and fused slag occur in that portion of the basin immediately north of Hyampom. Here about 600 feet of gently dipping sedimentary rocks form a south-trending ridge and several less-conspicous southwest-trending spurs. The lower portion of the Weaverville consists principally of conglomerate, sandstone, and pebbly sandstone, whereas the upper part is dominated by clay and thinly-bedded, tuffaceous, paper shales. The paper shales commonly contain well-preserved, carbonized leaf and cone impressions of *Taxodium dubium*, a swamp-loving cypress; fragments of a fresh water diatom, *Melosira granulata*, are visible under the microscope. South- and west-facing slopes in the area are scarred by landslides, some of which were active during the winter of 1962, and flat benches at the base of the hills are underlain by Pleistocene (?) terrace gravels and alluvium.

Phosphate-Bearing Rocks. Rocks containing phosphorus can be identified in the field by means of a simple chemical test: a small amount of finely-ground ammonium molybdate is applied to a rock surface by a common salt shaker, and a few drops of nitric acid are added; if the rock contains phosphorus, a bright yellow color forms within about one minute. Chemical analyses and the phosphorus spot-tests show that some of the intrusive slag, baked sediments, and unaffected sediments contain phosphorus.

Most of the slag outcrops contain phosphorus, although the rapidity with which the spot chemical reaction takes place suggests wide variation in the amount present. Some slag fails to react to the test. Detailed testing of the northernmost outcrop of slag yielded only spotty positive tests; included fragments of pink shale gave positive results, but adjacent shale in place and red soil overlying the slag gave negative results. Much of the float west of the main slag outcrops and in the wide flat above the 1650-foot contour

also contains phosphorus. The western part of the main outcrops of slag yielded positive results throughout a vertical distance of about 20 feet. However, chemical analyses show that the slag contains phosphorus in amounts so low as to be obviously uneconomic.

About 1,400 feet south of the above exposure, in cuts along the northernmost east-trending portion of the Hyampom-Big Bar road in section 24, T. 3 N., R. 6 E., H., a phosphatic bed is exposed over a distance of almost 300 feet. It consists of a layer of hard, light-colored, ovulitic rock 2 to 3 inches thick, underlain after a barren interval of about 5 feet by 6 to 12 inches of dark brown, conchoidally-fracturing mudstone containing sparse ovules.

In thin section, the light-colored rock exhibits a peculiar texture; plagioclase in radial groups, sheafs, and matted aggregates of corroded and altered crystals is the dominant mineral. The ovules comprise 15 percent of the rock and contain an amorphous groundmass in which are included sheafs of short fibers that probably are a phosphatic mineral. This same mineral occurs randomly throughout the rock groundmass. A pale-yellow material (collophane ?), amorphous or locally minutely fibrous, also occurs in the groundmass. Fresh detrital grains of plagioclase and quartz are enclosed by the corroded plagioclase crystals.

The mudstone contains fewer ovules, with an average size less than 0.4 mm. They consist of felty masses of fine, colorless crystals that may be phosphorus-bearing. These crystals also are present in the groundmass, together with a yellowish-brown, amorphous material similar to that observed in the upper stratum. Detrital grains of microcline, plagioclase, and quartz occur together with minute laths of muscovite and an abundant, iron-stained clay mineral.

The mudstone possibly extends as much as 0.6 mile due west, inasmuch as a baked shale with a similar ovulitic appearance occurs just west of the ridge crest.

Microchemical tests on both rock types indicate that phosphorus is present in both the ovules and the enclosing matrix, but chemical analysis shows that the mudstone contains only average amounts of the element.

The phosphatic sediments are almost unique in California, inasmuch as bedded phosphatic sediments are almost universally assumed to form only in a marine environment.

Phosphates on public lands are not locatable under the general mining laws; instead, prospecting and mining rights are obtained by permits and leases granted by the U.S. Bureau of Land Management. Information concerning procedures, which are detailed in the Code of Federal Regulations (Title 43, Part 196), can be obtained from local offices of the Bureau. Most of the area is part of the Trinity National Forest, and thus is subject to these regulations, but part is in private ownership.

This discovery of phosphate in the beds of the Weaverville Formation suggests that the Weaverville beds at other localities may also be host rocks for phosphate minerals. It opens for re-examination the sedimentary beds in other Tertiary basins in Trinity County such as those found at Hayfork, Big Bar, Reading Creek and Weaverville.

PLATINUM

Platinum has been produced in Trinity County solely as a byproduct of placer mining for gold. The hydraulic mines operating on terrace gravels along the Trinity River south and west of Junction City were the chief source of platinum nuggets in California. The old Chapman and Fisher mine produced many nuggets of the platinum group metals weighing up to an ounce. Logan (1926, p. 64) stated that over a period of several months the value of platinum recovered by the Valdor dredge operating on the Trinity River about 5 miles below Junction City was in the ratio of $1.25 platinum to $100 gold. The platinum group metals occurred in fine flakes and as sharp-edged pieces, but there were some nuggets up to an ounce in weight. The nuggets assayed 40 to 43 percent platinum and 47 to 58 percent osmiridium. Hydraulic mines near the mouth of the South Fork recovered a higher ratio of the platinum group metals than mines in the Weaverville, Lewiston, or Trinity Center districts. Since hydraulic mining and gold dredging operations have practically ceased in Trinity County, there is little, if any, current production of platinum.

QUICKSILVER

The Altoona quicksilver mine in northeastern Trinity County is the only large producer of quicksilver in the Klamath Mountains Province. It is of particular geological interest because it lies 150 miles north of the nearest belt of quicksilver deposits in the northern Coast Ranges. Twenty-nine of the 30 mines that have been the most consistent producers of quicksilver in California lie in the Coast Ranges in areas where altered serpentine, associated with rocks of the Franciscan formation, frequently is the host rock for cinnabar. Altered serpentine is present at the Altoona, the thirtieth of the big producing mines, and although it carries some cinnabar in the contact zone it is not the host to the principal ore bodies.

Properties adjoining the Altoona mine have produced small quantities of quicksilver. The occurrence of cinnabar is noted at other mines in the county near Carrville, Dedrick, Denny, north of Junction City, and at the Copper Queen, whose locations are given in the tabulated list. Most of these occurrences are associated with serpentine. This association and the extensive distribution of serpentinized rocks throughout the county suggest that careful prospecting and intelli-

Photo 17. Rotary furnace and condensers at the Altoona quicksilver mine.

gent exploration may lead to the discovery of new quicksilver deposits. Factors which lead to high mining costs in Trinity county are isolated locations, adverse winter weather and high transportation and labor costs. Total production from mines in the county is about 34,000 flasks.

Altoona Mine. Location: secs. 22, 26, T. 38 N., R. 6 W., M.D., about 22 miles west of Castella. Ownership: Altoona Quicksilver Mining Company, c/o Richard Field, 743 Roble Avenue, Menlo Park, California.

Cinnabar was first discovered in place in Trinity County in 1871 near the present Altoona mine shaft. Between 1871 and 1875, cinnabar was recovered by concentration from ore mined from open cuts and a few short adits. In 1875 the Altoona Quicksilver Mining Company acquired the property and by 1880 more than 9,000 flasks of quicksilver had been recovered from ore mined to a depth of 132 feet.

Cinnabar and a little native quicksilver occur in steeply dipping tabular lenses along faults that strike northeasterly and dip 65° to 75° NW., and along a flatter-dipping vein of approximately the same strike. The faults cut altered diorite and probably extend into the adjacent serpentine. The lenses average about 5 feet in width and are up to 200 feet in length and depth. Cinnabar occurs in a sheared and metamorphosed porphyritic hornblende diorite, and in veinlets of carbonate and quartz in silicified diorite where these rocks have been cut by faults. The two principal faults along which the ore has been mined are roughly parallel and about 150 feet apart on the Castella (132-foot) level. The mine is developed by a two-compartment vertical shaft 450 feet deep, and a vertical winze sunk 150 feet below the 450-foot level at a point about 230 feet northwest of the shaft. There are six levels from the shaft and two from the winze with a total length of more than 10,000 feet.

The two periods of major operation were from 1875 to 1880 and from 1895 to 1901, during which 27,200 flasks of quicksilver were produced. The average grade of ore mined was about 20 pounds per ton, but some ore mined in the late 1890's is said to have contained 60 pounds of mercury per ton. Since 1901, the property has been operated intermittently by lessees. In 1942 the Marsman Company of California had a working agreement with C. W. Erickson of Dunsmuir who had a lease on the property. The Castella (132-foot) drainage level was retimbered, and the mine was pumped out to the 450-foot level. Erickson reported a production of about 1,100 flasks from November 1943 to November 1945 from ore mined between the Castella and Altoona levels, 132 to 229

feet below the surface. The operation was shut down in 1946 and the mine was allowed to flood.

B. C. Austin and L. A. Smith (The Castella Corporation) of San Francisco obtained a lease on the property in 1955 and obtained a government loan to reopen the mine. Phil Munko and Walter Sullivan of Dunsmuir obtained an oral lease on a portion of the surface with a right to mine to a depth of 40 feet. They made a production of 22½ flasks from ore mined from surface stringers in 1955. Clayton Kalbaugh of Redding also made a small production by screening, sluicing and jigging some old tailings in 1955.

In October 1955 The Castella Corporation employed a crew of five men under the supervision of Charles J. Ayers to build a bunkhouse, boarding house, storeroom, machine shop and to open up the old shaft which had caved to a depth of about 40 feet. By 1957 a new steel headframe was erected above the shaft, the shaft was pumped out and retimbered to the 450-foot level and the 500- and 600-foot levels off the winze were pumped out and partly reconditioned. Equipment included an 8-inch and a 6-inch deep-well turbine type pump, a single drum hoist driven by a 50-horsepower motor, an Ingersoll Rand Imperial Type 40 compressor driven by a 60-horsepower motor, an 8-inch Coppus fan and a Snocat. Five diamond drill holes were drilled in an easterly direction from the surface to depths of 130 to 190 feet on a 70° slope from stations north of the shaft. Ore was cored in two holes at depths of 120 feet. Some drilling was done also at the 600-foot level and a lens of good ore 4 feet wide was found about 40 feet southeast of the winze. It was drifted on for 180 feet in a N. 45° E. direction. This ore was also developed on the 500-foot level and averaged 11 to 12 pounds of quicksilver per ton.

The Rare Metals Corporation of America obtained a lease and option on the property from the Castella Corporation and took charge of the exploration work in November 1957. Diamond drill cores determined the continuation of the ore to a depth of 150 feet below the 600-foot level. The option was surrendered to the Castella Corporation which again took over the operation in June 1958. A Gould-type rotary furnace 30 inches in diameter and 40 feet long was installed. A 10- by 20-inch jaw crusher was set to crush the ore to minus 1 inch for retorting. About 2,000 tons of ore from development work had been stockpiled and a three-compartment raise was being run on ore from the 600-foot drift at a point about 100 feet northeast of the winze in September 1958. Power was furnished by the California-Oregon Power Company, and a 100-k.w. diesel electric plant was installed for emergency use. Ore treatment was started in October 1958, at the rate of 25 to 30 tons per day. Production of quicksilver was continued throughout 1959 and into 1960 when the mine was shut down. No development or mining has been done below the 600-foot level.

A lease and option on the property was held by Universal Silver Co., (Trans Pacific Metals) of Houston, Texas during 1961 and 1962 but no work was done.

Hub and Security Claims. Location: sec. 14, T. 38 N., R. 6 W., M.D. Owner: John Hall, Dunsmuir. Prominent 50-foot-wide shear zone in serpentine trends N. 70 W., dips more or less vertically. Traces of cinnabar are common within the zone, but uncommon on either side. Several shallow cuts at right angles to zone expose it well, in upper (i.e. uphill) part. The lower part of the zone, is occupied by dense siliceous rock that forms a prominent knob above the surrounding area. It contains an abundant green mineral, somewhat similar to mariposite. It stands 10-15 feet above the adjacent serpentinous schist, and terminates abruptly in an uphill direction, as if cut by a fault.

Above this, a mercury-bearing shear zone (not exposed at all in lower, caved cuts) begins, which becomes better exposed as one proceeds uphill. Two gouge zones, 10 feet and 5+ feet wide, respectively, can be seen in the upper cuts, in a 50-foot shear zone. These bound a massive-appearing serpentine body that actually is finely broken. Cinnabar occurs as smears along break surfaces; some of it has striations. Some cinnabar occurs in small, east-dipping, 1½-inch shear zones cutting "massive" serpentine transversely to shear zone. Gouge, broken serpentine in place, muck from pit floor, and "massive" serpentine all show some cinnabar color when panned. Cinnabar definitely is low-grade, but appears to be well distributed. It probably represents less than 0.1 percent of the material in the shear zone. Upgrading would be simplified by the broken character of the rock. Perhaps a grizzly, a small grinder, a small agitator to remove most of the clay, and a small batch-retort could be used. Grizzly oversize (+¾"?) could be reduced by hand after cobbing small barren "horses". (This property was examined November 8, 1962, by Philip A. Lydon).

SILVER

The production of silver in Trinity County, 1880 to 1957, is valued at approximately $210,000. It was obtained entirely as a by-product from refining the gold and copper metals recovered from the placer, lode gold, and copper mines.

STONE AND ROCK PRODUCTS

Rock Products

Although sand and gravel, and stone have been produced since 1850, it has been only since 1955 that these commodities have come to the fore. In 1960, the total value of rock products was almost a million dollars, exceeding the value of all other mineral com-

modities in the county. Not only was there an increased demand for these commodities for use in the construction of the U.S. Bureau of Reclamation Trinity Project, but there was a concurrent decline in the production of gold.

Because of the sparse population distribution in the county, major aggregate-producing centers have not developed. Normally, sand and gravel has been produced by one commercial plant and, intermittently, by contractors who operate portable equipment. Stone quarries also are operated intermittently with portable equipment to provide material for highway construction. The Northwestern Pacific Railroad has operated a stone quarry at Island Mountain for many years.

The Trinity Project, being built by contractors for the U.S. Bureau of Reclamation, consists of three dams and two tunnels. Trinity River water will be stored in a 2½ million acre-foot lake behind Trinity Dam, an earth-fill dam containing some 29,400,000 cubic yards of earth, sand, gravel and cobble-fill. Completed in 1960, it stands 465 feet above stream bed. The sources of sand and gravel, and stone used in the Trinity Project are described in the tabulated list (see Number 198 to 214).

Releases from Trinity Dam will be re-regulated at Lewiston Dam 7 miles downstream, where surplus waters will be directed into Clear Creek tunnel and then into the Whiskeytown reservoir on Clear Creek. From Whiskeytown reservoir, the water will flow through the Spring Creek tunnel and discharge into Keswick Reservoir on the Sacramento River. Trinity and Lewiston dams are located near Lewiston in Trinity County.

Sand and Gravel

The principal sources of sand and gravel in Trinity County are the old tailings piles which were created by gold dredges and by hydraulic mining in the stream bed of the Trinity River and its tributaries. Significant tailings deposits occur at Lewiston, Minersville, Weaverville, Douglas City, Big Bar, Junction City and Hayfork. (The placer operations are described in the section on Gold).

In 1960 the value of sand and gravel produced in the county was approximately $234,000. Most of the production was obtained from tailings near Douglas City and Lewiston. As the need arises, portable crushing and screening plants are set up by contractors on convenient deposits to produce materials for road construction. Two such operations were located on Weaver Creek near Weaverville and are described in the tabulated list (Nos. 196 and 197).

The only fixed commercial plant active in 1960 was that of the Trinity Sand and Gravel Company, Weaverville, California.

Trinity Sand and Gravel Company. Location: center sec. 12, T. 32 N., R. 10 W., M.D., 1 mile southwest of Douglas City.

The Trinity Sand and Gravel Company excavates sand and gravel from old hydraulic tailings at Reading Bar with a front-end tractor shovel. The pit run material is loaded into end dump trucks and hauled a short distance to the plant. The plant consists of crushers, standard vibrating screens, and a screw-type sand classifier. Capacity of the plant is estimated at 200-300 cubic yards a day of processed material. Concrete sand and gravel are produced.

The deposit is approximately three-quarters of a mile long, ranges in width from 100 to 500 feet and is at least 25 feet thick. No overburden is present and the deposit is worked dry. Boulders up to 2 feet in diameter are present. The gravel is subangular to subrounded and contains the following percentages of rock types (in the ¾-1½″ size): schist 32, gabbro 22, granite 15, gneiss 11, greenstone 10, vein quartz 5, quartzite 3, serpentine 1, and conglomerate 1.

Crushed and Broken Stone

The leading mineral commodity produced in 1960 was stone valued at $743,000. Most of the stone was quarried from deposits of Copley greenstone by contractors for use as rip rap facing on the Trinity dam. The other recorded production was that of the Northwestern Pacific Railroad which quarried Franciscan formation greenstone near Island Mountain for use as rip rap and ballast.

The Copley greenstone used in the Trinity Dam was obtained from quarries within a few miles of the damsite. The greenstone was drilled and blasted and hauled by conveyor belt to the damsite.

The sources of stone used in the Trinity project are included in the tabulated list (Nos. 208 to 214).

Dimension Stone

Stone of various lithologic types was commonly used locally during the 1850's and 1860's for construction of homes and buildings. Little record of this kind of "production" is available today.

Soapstone was produced from a deposit near Weaverville prior to 1905, sawed into blocks, and used locally as fireplace brick. Approximately $16,000 worth of granite ornamental stone was produced from a quarry on Rush Creek in a 5-year period during the interval 1894 to 1903.

TUNGSTEN

Scheelite has been identified as occurring sparsely in a narrow quartz vein in the Clerbus Mae, an old gold mine about 30 miles by trail north of Denny and in some float quartz taken from a ditch and road cut about a mile northwest of Lewiston. The amount of scheelite was too minute to encourage exploration in either place.

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Tabulation of Mines and Mineral Resources of Trinity County

The list of mineral deposits is arranged alphabetically by commodities and under each commodity heading the mineral deposits are listed alphabetically.

The numbers in the first column will identify the mine or deposit on the map of Trinity County which accompanies this report. The names of the owners or operators were obtained when the property was visited or from Trinity County records. The owners of many idle properties are listed as "Undetermined". Many mines may have lost their identity because their names have been changed or they have been grouped with other mines under the name of the principal property. Some properties have, no doubt, been abandoned. When addresses are given for towns in California, the name of the state is omitted.

Notations in the last column apply to publications in the list of references at the end of the text. The principal author's name is followed by the abbreviated date of publication; page numbers follow the colon, and additional references are separated by semicolons.

ASBESTOS

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Asbestos King No. 9	Sec. 2, T 37 N, R 6 W, MDB&M	G. R. & Reba Swensen, Box 602, Mt. Shasta		An asbestos prospect in the Highland Lakes district about 10 mi. E of Carrville. No production recorded.
	Brown, M. J.	Sec. 28 (?), T 38 N, R 6 W, MDB&M	Undetermined	Amphibole (?)	About 24 mi. W of Castella. Four claims were located near the East Fork of Trinity River in the vicinity of the Altoona mine. Little development. Idle. (Logan 26:12.)
	Dan Rice Asbestos Nos. 1, 4, 7, 8	Sec. 3, 10, T 39 N, R 7 W, MDB&M	Ross Johnson, Henry L. Shuster and C. C. Fowler, Sr., Box 824, Yreka		A prospect about 14 mi. N of Carrville. No commercial production recorded.
1	Eldenlou Group	Sec. 19, T 38 N, R 6 W, MDB&M	G. R. Swenson, Box 602, Mt. Shasta, A. J. Nelson, Castella (1945)	Amphibole asbestos in serpentine.	Three miles west of Altoona mine. Five claims. Prospected by shallow pits exposing lenses of fiber 7 to 30 inches wide. Fiber recovered and shipped to Baltimore in 1944 for use in acid filters.
2	Jones Brothers	Sec. 7, T 37 N, R 7 W, MDB&M	Southern Pacific Land Company, 65 Market Street, San Francisco	Formerly described as cross-fiber chrysotile in serpentine. Chrysotile now believed to be anthophyllite.	One mile north of Carrville. Two tons of 3/4-inch fiber were shipped in 1930. Hand-cobbed from rock in cut 8 by 20 feet deep. (Laudermilk and Woodford 30:259-262; Averill 31: 26; 41:16; Wiebelt and Smith 59:45-47; herein.)
	Katzer	Sec. 28, T 38 N, R 6 W, MDB&M	Eugene M. Katzer, Alturas		An asbestos prospect 24 mi. W of Castella, and S of the Altoona mine. No production recorded.
	Keystone				See Trinity Asbestos.
	Ott, Rudolph	Sec. 7 (?), T 37 N, R 6 W, MDB&M	Undetermined		An asbestos prospect 5 mi. SW of Altoona mine, on East Fork of Trinity River; asbestos float is found for a distance of 5 mi. from Altoona to Whalan Station. (Logan 26:12.)
3	Red Mountain (Virginia Bruce)	Sec. 33, T 26 N, R 12 W, MDB&M Sec. 5, T 25 N, R 12 W, MDB&M	B. L. Codding and G. L. Carrico c/o Bar Z Ranch, Covelo	Veinlets of chrysotile in serpentine.	Thirty miles from Covelo via Travis Ranch. Thirteen claims located in 1949-50. Fiber averages 1/4 inch. One body 10 by 150 feet in plan contains about 2% fiber. Deposit explored by stripping and trenching. (Wiebelt and Smith 59:41, 44-45; herein.)
	Shasta Asbestos Nos. 1 to 10				See Trinity Asbestos.
	Shasta Lily 1 to 5	Sec. 34, T 38 N, R 6 W, MDB&M	G. R. and Reba Swensen, Box 602, Mt. Shasta	Chrysotile	An asbestos prospect about 3 mi. SE of Altoona Mine. Little development. Idle.
	Shasta Lily No. 6, 7	Sec. 2, T 37 N, R 6 W, MDB&M	Lou Rattaro, Al Radero, G. R. Swensen, et al., Box 944, Mt. Shasta	Chrysotile	An asbestos prospect in the Highland Lakes district about 8 mi. NW of Gibson. Little development. Idle.

ASBESTOS—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Trinity Asbestos (Keystone, Shasta Asbestos Nos. 1 to 10)	Sec. 32, T 38 N, R 5 W, MDB&M Sec. 5, T 37 N, R 5 W, MDB&M	E. S. Baker, et al., Delta; leased to Keystone Asbestos Corp., Washington, D.C., in 1952.	Slip-fiber chrysotile (picrolite) occurs sparsely in fractured, hard, black, serpentinized peridotite.	The occurrence near Tamarack Lake was prospected by a 30-inch pit, 75 feet long and 50 feet wide. In 1954 a loan of $10,000 was granted by the DMEA to drill this occurrence. Three miles of access road were built to the site and 5 holes totaling 371 feet were drilled. Very little fiber was found. (Wiebelt and Smith 59:40-41)
4	Trinity River	NW 1/4, Sec. 6, T 39 N, R 6 W, MDB&M	Leased to Adams Mining & Exploration Co., Weed	Cross-fiber chrysotile veinlets ranging from 1/8 to 1/2-inch long, in massive dark green serpentine. Fiber zone is 200 feet wide and 800 feet long. Fiber content estimated 5-10%.	Three bulldozer cuts on steep mountain-side. Potentially commercial. (SJR)
	Virginia Bruce				See Red Mountain, herein.
	White Cloud	Sec. 13, T 38 N, R 6 W, MDB&M	Emile Chestang, Colusa	Amphibole asbestos	Propsect 1/4 mi. N. of Castella-Altoona mine road, near Asbestos Gulch. Zone of weak, weathered amphibole asbestos 1 to 4 ft. wide; strike N 20° E. Some asbestos recovered during prospecting. (Wiebelt and Smith 59:47.)

BARITE

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
5	Alwood	Sec. 32, T 7 N, R 7 E, HB&M	Melvin Alwood, 1458 Dusty Lane, Redding	Barite occurs in contact-metamorphic deposit in small pendant of metavolcanic rock in diorite. Strong N 70° E shearing is post-mineralization. Barite is light gray, ranges from fine- to coarse-grained, and locally contains quartzite, pyrite, garnet, and iron oxide stains. Specific gravity of random samples ranges from 3.91 to 4.40, averages 4.26. Barite occurred as offset pods or lenses, according to owner. Little barite exposed in Oct. 1962.	About 1 mi. SW of Denny. Prospected in 1960-61, yielded 1,400 tons May-July 1962. Barite mined by bulldozer, trucked 235 mi. to grinding mill at Yuba City. NNE-trending open cut and transverse benches expose rock to depth of 25 ft. for distance of 200 ft. Idle.

CHROMITE

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
6	Arrow Point	Sec. 24, T 28 N, R 11 W, MDB&M	Undetermined		5 mi. SW of Beegum. Chromite crops out in two places along a ridge striking northwest. (Averill 41:16-17.)
7	Black Crane	Sec. 14, T 38 N, R 6 W, MDB&M	Undetermined		Claim 11 mi. NE of Carrville located in 1940. Lenses of chromite were mined from old cuts in World War I. Adjacent to Crow Creek mine, which see. (Averill 41:17.)
8	Black Crow No. 1 and Black Crow No. 2	Sec. 18, T 38 N, R 5 W, MDB&M	George Costa, Castella		Two claims 14 mi. NE of Carrville located May 1935; 30 tons of chromite were mined from Black Crow No. 1. Idle. (Averill 41:17.)
	Black Crow No. 1 and No. 2	Sec. 14 (?), T 38 N, R 6 W, MDB&M	Undetermined		Claims located in 1939 by R. H. Williams of Sacramento. (Averill 41:17.)
	Black Jack	Sec. 28, T 30 N, R 12 W, MDB&M	Undetermined		5 mi. SW of Peanut. A small tonnage was mined in 1917 from a lens two feet wide. Idle. (Bradley 18:211, 224.)
	Blackie	Sec. 19, T 30 N, R 12 W, MDB&M	C. F. Starr, Hayfork		5 mi. SW of Peanut. Owner reported shipping 15 tons valued at $151.00 per ton.
	Brown Dog	Sec. 2, T 38 N, R 6 W, MDB&M	Undetermined		Prospect 13 mi. NE. of Carrville located in 1939. No production. (Averill 41:17.)
	Cedar Gap				See Sunny Slope, herein.
	Chapman-Kirby				See Crow Creek, herein.
9	Charlen Sue	Sec. 14, T 38 N, R 6 W, MDB&M	Clayton L. Kalbaugh, Highway 299 E, Redding		13 mi. W of Castella. A small amount of milling grade ore was mined during the summer months in 1943 and 1952. See Shasta Lily also. Idle.
	Chrome No. 2	Sec. 3 (?), T 36 N, R 6 W, MDB&M	Undetermined		Claim 5 mi. NW of Lamoine, located October 1938 by Sillon Massey. No production. (Averill 41:17-18.)
	Chrome Center 1, 2, 3 (Chrome King 1, 2, 3; Eagles Nest 1, 2, 3; Green Chrome)	Sec. 10, 11, 14, 15, T 29 N, R 11 W, MDB&M	Major M. W. Collins, Wildwood; leased by Clem H. Eslinger		A group of 10 unpatented claims, 3 mi. SW of Wildwood. Development worth $1,000 recorded by owner in 1955. No production record.
	Chrome King 1, 2, 3				See Chrome Center 1, 2, 3.
	Collins				See Sunny Slope, herein.
	Compass	Sec. 21, T 30 N, R 12 W, MDB&M	Undetermined		Claim 4 mi. SW of Peanut. Only small amount of chromite exposed; inactive when visited in 1917. (Bradley 18:211.)
	Costa				See Shasta Lily, herein.

CHROMITE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
10	Crow Creek (Chapman-Kirby, McConnell-Kirby Mumbo Creek, Munko, Neely, Russell)	Sec. 11, T 38 N, R 6 W, MDB&M	Southern Pacific Company, 65 Market St., San Francisco; leased to H. T. and J. Company in 1954.	Chromite in lenses in serpentine. A band of disseminated chromite about 5 feet in thickness was exposed for 300 feet in 1954; iron content too high to concentrate profitably.	Lump chromite mined from pods in open cuts and adits in 1943. (Bradley 18:210; Brown 16:877; Logan 26:12; herein.)
	Dodge Ranch	Sec. (?), T 39 N, R 7 W, MDB&M	Undetermined		"A deposit of chromite is reported on this property on the Trinity River, 16 miles from Callahan. Specimens of the ore . . . appear of good grade." Idle. (Bradley 18:210.)
	Eagles Nest 1, 2, 3				See Chrome Center 1, 2, 3.
	Empire				See Twin Cedars, herein.
	Eureka	Sec. 18, T 30 N, R 12 W, MDB&M	Undetermined	Outcrop of chromite 3½ ft. wide strikes N 30° W. Float lies along strike for 150 ft.	Prospect 5 mi. SW of Peanut. (Bradley 18:211-212.)
	Federal	Sec. 33, T 30 N, R 12 W, MDB&M	Undetermined	Small lenses of chromite in serpentine.	Group of claims 6 mi. SW of Peanut, located in 1916; some ore was hauled to Red Bluff in 1917. (Bradley 18:212.)
	Green Chrome				See Chrome Center 1,2, 3.
	Green Stripe No. 1 and No. 2	Sec. 8 (?), T 38 N, R 6 W, MDB&M	Undetermined		Two claims 9 mi. NE of Carrville located for chromite in August 1937; may have been relocated by Bud Wagner in 1941. Idle. (Averill 41:18.)
11	Highland Lake	Sec. 2, T 37 N, R 6 W, MDB&M	Undetermined		Ore appearing to carry 50% Cr_2O_3 was mined in 1917 and hauled 14 mi. to Gibson. Idle. (Bradley 18:210; Logan 26:12.)
12	Hoelling	Sec. 20, 21, 28, 29, T 1 N, R 8 E, HB&M	Undetermined		Prospect 5 mi. NE of Forest Glen, located in 1940. Chromite reportedly crops out over an area 4 ft. wide and 10 ft. long. No production recorded. (Averill 41:18.)
13	Integral Consolidated	Sec. 15, 21, 22, 23, 27, T 38 N, R 6 W, MDB&M	Zack and George Anderson, 930 Cherry St., Santa Rosa	Float chromite assaying 40% Cr_2O_3 was said to have been found over an area 50 ft. wide and extending east for 2,000 ft.	Claims 12 mi. W of Castella. Some mining, probably during World War I. Prospected 1943 by Phillip Munko of Dunsmuir; small production made from float and surface pods in serpentine. (Bradley 18:210-211; Logan 26:12; Averill 41:18.)
	I Wonder	Sec. 26, T 29 N, R 11 W, MDB&M	Lyle Smith and Joe Gatliff, Hayfork		About 5 mi. S of Wildwood. A production of 11 tons 52% Cr_2O_3 reported in 1954.
	King Kohle				See Sunny Slope, herein.
14	Little Ann	Sec. 30, T 31 N, R 12 W, MDB&M	Delmar E. Fry, Hayfork (1941)	Chromite occurs in small lenses of 1 to 2 tons each in serpentine.	Adjoins Mumsie A. mine 6 mi. SW of Hayfork. Mines were small producers during World War I; 20 tons of mined ore on ground in 1940. Idle. (Averill 41:18.)

CHROMITE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Lost Dog	Sec. 34 (?), T 31 N, R 12 W, MDB&M	Undetermined		Adjoins Maringer chrome mine, which see.
15	Low Gap	Sec. 11, T 29 N, R 11 W, MDB&M	Ezra A. Collins, Knob; leased to W. L. Leland, Chico, in July 1942.	Coarse grained chromite in deeply weathered serpentine. Float chromite plentiful in soft, tan-colored soil.	Mine 2 mi. SW of Wildwood. Lens of chromite 3 to 4 ft. wide was mined from trench about 40 ft. long and 6 ft. deep, yielding 20 tons of chromite averaging 44% Cr_2O_3. Idle since 1942.
	Major Chrome	Sec. 13, T 30 N, R 12 W, MDB&M	Clarence A. and Eva Patton, Hayfork		Prospect 2 mi. S of Peanut. No production recorded. Idle.
16	Maringer	Sec. 34, T 31 N, R 12 W, MDB&M	Undetermined	Lens of chromite in serpentine body about 3 mi. long, 1 mi. wide. 1 ft. chromite exposed in shaft for 30 ft.	5 mi. SW of Hayfork; adjoins Lost Dog and Tuly Creek claims. About 13 tons of chromite mined from inclined shaft 30 ft. deep in World War I. Relocated by Frank Maringer 1939. Idle (Averill 41:19.)
	McConnell-Kirby				See Crow Creek, herein.
	Mumbo Creek				See Crow Creek, herein.
	Mumsie A.	Sec. 30, T 31 N, R 8 W, MDB&M	Undetermined		Adjoins Little Ann, which see.
	Munko				See Crow Creek, herein.
	Neely				See Crow Creek, herein.
17	Oak Ridge	Sec. 10, T 2 N, R 7 E, HB&M	Jim Naargar, E. A. Lough, Hayfork		About 11 mi. W of Hayfork. A shipment of 17 tons of chromite from this deposit in 1953 assayed 49% Cr_2O_3 with 2.5 to 1 chrome-iron ratio. Idle in 1955.
	Pallestreau	Sec. 34 (?), T 3 N, R 7 E, HB&M	Undetermined		Prospect about 3 mi. SE of Hyampom. Idle. (Averill 41:85.)
18	Peewee	Sec. 21, 22, T 30 N, R 12 W, MDB&M	Undetermined		Claim 4 mi. SW of Peanut. Lens of chromite 4 ft. wide and 20 ft. long was trenched to depth of 1½ ft. Idle. (Bradley 18:212.)
	Phillpot	Sec. 2, T 31 N, R 12 W, MDB&M	Undetermined		3 mi. NW of Hayfork. Shipments of high-grade chromite were made in 1916 from deposit near Hayfork. (Bradley 18:211.)
	Picayune Lake Group	Sec. 23, 26, 27, T 39 N, R 6 W, MDB&M	Undetermined	Several outcrops of high-grade chromite.	Group of 14 claims, 16 mi. W of Gibson; located 1917. (Bradley 18:211; Logan 26:12.)
	Pink Crystal	Sec. 25, 26, T 38 N, R 6 W, MDB&M	Undetermined		Claim 2 mi. E of Altoona mine, located in 1939. No production recorded. (Averill 41:19.)
	Red Mountain	Sec. 20, 21, T 26 N, R 12 W, MDB&M	Undetermined		Claim located November 1939 on the E slope of Red Mountain. (Averill 41:19.)
19	Redskin	Sec. 9, 10, T 2 N, R 7, E, HB&M	Leonard Tardiff and Ben Brown, Hayfork; leased to Starr Bee Mines, Hayfork, 1954-1957.		10 mi. W of Hayfork. Some ore assaying 36 to 42% Cr_2O_3 shipped in 1956.

CHROMITE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Russell				See Crow Creek, herein.
20	September Morn	Sec. 9, T 29 N, R 11 W, MDB&M	Dave Boyer, Ono; leased to John Diestelhorst, Jr., Redding, 1942.	Chromite lens 4 ft. wide in serpentine strikes N 60° W, dips 54° S. Lens cut off by fault striking N 10° E, dipping 70° W.	Mine 3 mi. SW of Wildwood. About 50 tons chromite mined from adit 38 ft. long in 1942. No production since then.
	Shamrock				See Sunny Slope, herein.
21	Shasta Lily (Costa, Tiger Lily)	Sec. 14, T 38 N, R 6 W, MDB&M	George Costa, Castella	Ledges of nodular and disseminated chromite in serpentine. Good milling ore but heavy overburden.	Mined 400 tons lump ore in 1942. Mined 1900 tons milling ore (18-20% Cr_2O_3) in 1952. (Herein.)
	Summit	Sec. 23, 24 (?), T 38 N, R 6 W, MDB&M	Undetermined		Claim 11 mi. NE of Carrville, located in 1939. Idle. (Averill 41:19.)
22	Sunny Slope (Cedar Gap, Collins, King Kohle, Shamrock, Triangle)	Sec. 14, 15, T 29 N, R 11 W, MDB&M	Liston Ehorn Estate, c/o H. P. Edwards, P.O. Box 328, Red Bluff	Chromite in serpentine.	Old cuts indicate mining 1914-1918. Mined 62 tons 1942-44. (Averill 41:19-20, O'Brien 43:84, 330; herein.)
	Tiger Lily				See Shasta Lily, herein.
	Triangle				See Sunny Slope, herein.
	Trinity	Sec. 35, T 37 N, R 6 W, MDB&M	Undetermined		Claim 12 mi. W of Lamoine, located prior to 1941. Idle. (Averill 41:20.)
	Tuly Creek 1 & 2	Sec. 34 (?), T 31 N, R 12 W, MDB&M	John D. Rourke Estate, Hayfork		Adjoins Maringer chrome mine, which see.
23	Twin Cedars (Empire)	Sec. 32, T 30 N, R 12 W, MDB&M	Leonard G. Taylor and John D. Rourke Estate, Hayfork	Lenses of chromite in serpentine.	A few tons mined in 1941. Six tons milling grade ore mined in 1954. (Averill 41:18; herein.)
	Twin Chrome Hill	Sec. 14 (?), T 38 N, R 6 W, MDB&M	Undetermined		About 12 mi. NE of Carrville. In 1939, the owner stated that chromite outcropped for a width of 4 ft. over a length of 12 ft. and that he had mined 4 tons. Idle. (Averill 41:20.)
	Wild Cat	Sec. 6, T 36 N, R 6 W, MDB&M	A. D. Grafton, Box 64, Lamoine		Claim in Halls Gulch District about 5 mi. SE of Trinity Center. No production recorded. (Averill 41:20.)
	Williams, F. S.	Sec. 34, T 30 N, R 11 W, MDB&M	Undetermined		Claim 6 mi. SE of Peanut. Idle. (Averill 41:89.)
24	Yellow Pine	Sec. 10, T 2 N, R 7 E, HB&M	Chester M. Shock, Hayfork; leased to Theodore G. Knowles and John E. Winters of Redding in 1942.	Coarse chromite float in decomposed serpentine, in area about 22 ft. wide and 75 ft. long trending N 40° W.	5 mi. SE of Hyampom. About 35 tons of 47% Cr_2O_3 mined from shallow pits in 1942 by hand tools. No production reported since 1942.

COAL

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
25	Big Bar	Sec. 5, T 33 N, R 12 W, MDB&M	United States Government	Seams and beds of lignite within a 20-foot stratigraphic interval in gravel deposit. One bed of good coal 3-5 feet thick. Lower cretaceous or Knoxville age.	A little coal used locally. (Crawford 96:56; Brown 16:878; Logan 26:13; Averill 41:20-21; herein.)
	Hayfork Valley	Sec. 12, T 31 N, R 12 W, MDB&M. Sec. 7, T 31 N, R 11 W, MDB&M	Undetermined	W exposure consists of 2 coal beds dipping 28° SE, each 2 ft. thick. E beds dip 55° SE; 5-ft. upper bed is black, tough lignite of good quality in gray sandstone. Coal in W exposure contains 10.10% water, 51.80% volatiles, 31.00% carbon, 7.10% ash. Lower bed of E exposure contains 9.10% water, 34.25% volatiles, 19.15% carbon, 39.50% ash. Upper bed of E exposure contains 11.25% water, 47.00% volatiles, 38.25% carbon, 3.50% ash. (Analyses from Crawford, 1894, p. 65.)	Lignite coal crops out in the bed of the river 1 and 2 mi. E of Hayfork. Undeveloped. (Crawford 94:62, 65; Brown 16:877; Logan 26:13.)
	Hyampom Valley	Sec. 23, 24, 25, T 3 N, R 6 E, HB&M	United States Government	Analyses reported by Crawford (1894, p. 65) show ranges as follows: water 10.50-12.25%; volatiles 38.65-42.55%; carbon 24.15-41.60%; ash 3.60-26.70%.	Numerous outcrops of lignite have been noted where Hayfork Creek enters South Fork of Trinity River near Hyampom. Little development. (Crawford 94:62-63, 65; Brown 16:877; Logan 26:13.)
	Poison Camp	Sec. 15, 22, T 2 S, R 6 E, HB&M	Undetermined	3-ft. bed of lignite strikes N, dips 24° E; interbedded in sequence of clay and soft sand. Lignite shows wood structures; color dull brownish black to glistening black. Contains 9.50% water, 41.00% volatiles, 48.40% carbon, 1.10% ash (Crawford, 1894, p. 65).	7 mi. SW of Ruth. No known development. (Crawford 94:63, 65; Brown 16:878; Logan 26:14.)
	Redding Creek	Sec. (?), T 31 N, R 9 W, MDB&M	Undetermined		Shaley coal 5 to 15 ft. thick occurs in lower part of gravel deposits 7 mi. SE of Douglas City (Logan 26:14.)
26	Reese Brothers	Sec. 32, T 32 N, R 9 W, MDB&M	United States Government; leased to Reese Brothers of Hayfork	A bed of brownish-black lignite 8½ ft. thick.	A small quantity sold locally from 1936 to 1938. Stripping but no production in 1949. (Averill 41:22-23; herein.)

COPPER

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Annex				See Island Mountain Consolidated.
	Archibald	Sec. 6, 8, and 17, T 7 N, R 7 E, HB&M	Undetermined	Cuts near NW corner sec. 8 expose near-vertical limonitic shear zone striking N 35° W. Narrow zone of serpentine is associated with shear zone. Silicification and alteration of greenstone and other host rocks are prominent. Sparse copper mineralization is dominantly malachite, with some azurite, occuring as smears along fine fractures and to lesser extent as impregations in host rock.	About 4 mi. N. of Denny. Prospected for several years. Bulldozer cuts. No production.
33	Bear Tooth (Fischer)	Sec. 33, T 7 N, R 7 E, HB&M	Hazel Creek Mining Company, Box 508, North Sacramento		Small production of gold, silver, and copper reported in 1947. Described under lode gold, herein.
	Copper Ace				See Murphy, herein.
	Copper Button	Sec. 36, T 37 N, R 7 W, MDB&M	Undetermined	Copper oxides, carbonates and sulfides occur in dikes in serpentine.	4 mi. NE of Trinity Center. 4 claims developed by short adits and open cuts. (Aubury 05: 124; 08:145; Brown 16:879
	Copper Jack				See Murphy, herein.
	Copper King				See Murphy, herein.
	Copper King No. 1 to 5	Sec. 16, T 37 N, R 7 W; MDB&M	Charles L. Foster, Trinity Center, and Edward J. Burwell, Box 576, Visalia		Prospect 2 mi. E. of Carrville, adjoining Copper Queen and Rainbow claims, which see.
	Copper Queen				See Murphy, herein.
27	Copper Queen	Sec. 16, T 37 N, R 7 W, MDB&M	J. M. & I. M. Foster, Box 86, Tahoe Valley; leased to Hoover Drilling Company Bakersfield, California (1956)	Green copper carbonate shows sparsely in seams and fractures of diorite and serpentine. Fresh diorite contains fine-grained pyrite, much of which has been oxidized, staining the fractured rock yellow, brown, and red. Cinnabar is found in brown clay and in fractures in serpentine at the west end of the open cut.	(Aubury 05:120; 08:145; Brown 16:879; herein.)
	Copper Ten				See Murphy herein.
	Fischer				See Bear Tooth lode gold mine, herein.
28	High Grade and Teressa	Sec. 5, T 36 N, R 12 W, MDB&M	C. M. and Teressa M. Salyer, Salyer	A ledge of hard, fine-grained gray diorite between a greenstone footwall and a serpentine hanging wall, has been replaced by quartz, pyrite, chalcopyrite and pyrrhotite.	Diamond drill holes failed to find enough copper ore to encourage development in 1953. (Herein.)

COPPER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
29	Island Mountain Consolidated (Annex, Leach, Merritt Gore, Shotgun)	Sec. 9, 10, 15, T 5 S, R 6 E, HB&M	Island Copper Company, c/o E. R. Leach, 217 Hillside Ave., Piedmont	A large kidney-shaped body of massive sulfide in shear zone, replacing shale and graywacke of the Franciscan formation. Chalcopyrite is chief copper mineral with pyrite and pyrrhotite; minor amounts of bornite, cabanite, arsenopyrite, galena and ephalenite.	Principal copper producer in Trinity County. Most productive years 1915-30. Idle since 1930. Some ore remains. (Aubury 05:124-126; 08:148-150; Brown 16:881; Logan 26:14-15; Averill 41: 23-24; Stinson 57:9-33; herein.)
	June	Sec. 2, T 33 N, R 9 W, MDB&M	G. W. Leas, Lewiston, Cal. (1940)		Gold mine, with silver. Copper production less than 50 tons. (Jenkins 48:350.)
	Leach				See Island Mountain Consolidated.
	Merritt Gore				See Island Mountain Consolidated.
30	Murphy (Copper Ace, Copper Jack, Copper King, Copper Queen, Copper Ten)	Sec. 36, T 1 N, R 7 E, HB&M	Bert Ogden, Carl Julian, William Shamlee, Bob Roberts, Redding	Malachite, cuprite, some bornite and a little native copper in aplite dike in serpentine.	Explored prior to World War I; 39 tons of sorted ore shipped in 1951, unprofitably. (Aubury 08:142-143; Brown 16: 881; herein.)
	Rainbow No. 1, 2, 3, 4	Sec. 16, T 37 N, R 7 W, MDB&M	J. M. Foster, Box 86, Tahoe Valley		About 2 mi. E. of Carrville. Copper oxides and carbonates were mined from surface cuts. A small shipment to a smelter in 1954 was low-grade.
	Rebel Copper	Sec. 31, T 29 N, R 12 W, MDB&M	Undetermined	Quartz vein 4 ft. wide contains pyrite and chalcopyrite; occurs along slate and quartzite contact.	3 claims located 5 mi. SE of Forest Glen. Vein opened up by a shaft. (Tucker 23:94.)
	Shotgun				See Island Mountain Consolidated.

GOLD, LODE

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
31	Alaska	Sec. 14, T 35 N, R 11 W, MDB&M	Joseph S. Young, Star Route, Calabasas	2½ ft. quartz vein in slate.	About 9 mi. N of Helena. Developed by cross-cut adit 560 ft. long and 1500 ft. of drifts. One stope 100 ft. long, 4 ft. wide, 80 ft. high. Ore was milled in arrastre 13 ft. in diameter; reported $600,000 production. (Dunn 92:480; Crawford 96:437; Brown 16: 884.)
32	Amy Balch (Carter)	Sec. 13, T 33 N, R 8 W, MDB&M	Milton Carter, 2128 Shasta St., Redding	A vein of limonitic quartz about 2 feet wide along contact between diorite porphyry and slate.	About 1000 tons of ore mined prior to 1939. Gold production $35,000. (Crawford 96: 437; Brown 16:884; Averill 33:6-7; 41:24-25; herein.)
	Anna McGlue and Thorne				See Star of the East.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Armstrong	Sec. 6, T 37 N, R 12 W, MDB&M	Undetermined	9-in. quartz vein in quartz porphyry strikes NW, dips 20° NE.	About 13 mi. NE of Denny. Located in 1890 and developed by adit 210 ft. long; some high-grade ore was mined from surface workings. Idle. (Crawford 96:437; Brown 16: 884.)
	Bailey	Sec. 15, 16, 21, T 35 N, R 10 W, MDB&M	W. M. Gilzean, Junction City		No. 2 level of Globe Mine driven through mountain from Stuarts Fork side passed through this claim. Adit partly caved. (Miller 90:711-712; Averill 41:25.) See Globe also.
	Bateman and Mouldin	Sec. 14, 15, T 33 N, R 8 W, MDB&M	Undetermined	Quartz vein at contact of diorite porphyry and slate varies in width from a few inches to 5 ft.	Vein exposed in two old tunnels 100 ft. apart vertically. A small amalgamation plant was installed May 1932. Idle. (Averill 33:9.)
33	Bear Tooth (Fischer)	Sec. 33, T 7 N, R 7 E, HB&M	Hazel Creek Mining Company, Box 508, North Sacramento	Quartz vein. Gold in oxidized sulfides of pyrrhotite, pyrite and chalcopyrite.	An old property. 70 tons of sorted sulfides shipped to Tacoma in 1947 yielded $55 per ton in gold, silver and copper. (Aubury 08:144; Averill 41:25; herein.)
	Bell				See Golden Chest.
34	Belli	Sec. 32, T 38 N, R 7 W, MDB&M	Southern Pacific Land Company, 65 Market Street, San Francisco	In gabbroic rock near contact with serpentine.	Old pocket mine 7 mi. N of Trinity Center. (MacDonald 13: Plate 1.)
	Bette				See Golden Chest.
	Big Chief	Sec. 16, T 8 N, R 8 E, HB&M	Undetermined	14-in. quartz vein in schist.	Two claims near Old Denny located in 1908. Tunnel on vein for 100 ft; ore assayed $15 to $60 per ton in gold. (Brown 16:884.)
	Bigelow	Sec. 15, 16, T 34 N, R 10 W, MDB&M	Undetermined	A short ore shoot in hornblende schist and granodiorite.	6 mi. NW of Weaverville. 70-ft. shaft. A little high-grade produced. Idle. (Brown 16:884.)
	Bismark	Sec. 12, 13, T 33 N, R 8 W, MDB&M	Howard & Ike Wentz, French Gulch		Patented quartz claim in Deadwood district 4 mi. E of Lewiston. Idle.
35	Black Cloud Group	Sec. 31, 32, T 34 N, R 9 W, MDB&M	Undetermined	Dark and light colored, fine grained, porphyritic dikes penetrate mica schist and interbedded siliceous slate and metavolcanic rock.	3 mi. NE of Lewiston. 9 unpatented claims prospected by shallow surface cuts; ore estimated to assay $4 to $6 per ton, based on 3 surface samples and 40-ton mill run. (Averill 41:26-27.)
	Black Diamond				See Mason and Thayer.
36	Blagrave	Sec. 10, T 37 N, R 7 W, MDB&M	Undetermined	Meta-andesite country rock	3 mi. NE of Carrville. No published description. (MacDonald 13: Plate 1.)
37	Blue Jacket	Sec. 17, 18, T 37 N, R 7 W, MDB&M	Undetermined	Ore shoot of low-grade quartz with rich spots, 2½ ft. wide, 200 ft. long. Strikes N 40° E, dips 40° SE; vein cuts granodiorite, aplite, and serpentine. Some free gold in aplite and granodiorite.	Near Carrville. Attempt was made to develop it on large tonnage basis; has adit 820 ft. long with drifts, raises, and stopes. Producer prior to 1896. (Crawford 96:439; MacDonald 13:25-27; Brown 16:884-885; Averill 31:29.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Blue Jay				See New Blue Jay.
	Bluejay	Sec. 2, T 33 N, R 8 W, MDB&M	Undetermined	Quartz vein 3 to 4 in. wide strikes NE and dips steeply NW.	4 quartz locations 4 mi. NE of Lewiston. Were developed by adit 800 ft. long. About 5 tons of ore shipped in 1936. Idle. (Averill 33:11; 41:27.)
	Boarding House	Sec. 22, T 35 N, R 8 W, MDB&M	Undetermined		Quartz location 3 mi. N of Minersville.
	Boddecker, John	Sec. 33, T 38 N, R 8 W, MDB&M	Undetermined		3 quartz claims just W of Coffee Post Office; adit on Katherine claim followed vein for 75 ft., produced some good ore; 75 ft. adit and winze 25 ft. deep on Josephine claim was said to show 3 ft. of ore; adit on Virginia claim was 75 ft. long. Idle. (Logan 26:23.)
	Bonanza	Sec. 18, T 8 N, R 8 E, HB&M	A. J. Rupley Estate, Placerville	Vein of banded, limonite-stained quartz 10 in. wide strikes N 70° W, dips 30° NE. Both walls are brown slate.	Old quartz mine 9 mi. N of Denny. Developed by inclined shaft 86 ft. deep. Long idle.
	Bonanza	Sec. 29, T 35 N, R 8 W, MDB&M	Undetermined	Short, free-milling, high-grade ore shoot in slate.	2 claims 2 mi. N of Weaverville located in 1890; 130 ft. incline shaft, 200 ft. drift and several short adits. $15,000 mined from pockets; yielded some rich specimens of gold bearing calcite. (Dunn 92:483; Crawford 94:307-308; 96:885.)
	Bonanza	Sec. 10, T 35 N, R 11 W, MDB&M	Undetermined	Free-milling ore in shoot 4 ft. wide, 300 ft. long.	2 claims 10 mi. N of Helena developed by adit 320 ft. long and 500 ft. of drifts and raises; a little rich ore was mined. (Brown 16:885; Tucker 22: 207.)
	Bonanza	Sec. 21, 28, 29, 33, T 37 N, R 6 W, MD B&M	B. and E. Rodgers and R. C. Glassburn, Trinity Center		Quartz location 8 mi. NE of Trinity Center. Idle.
	Bonanza	Sec. 1, T 34 N, R 11 W, MDB&M; Sec. 36, T 35 N, R 11 W, MDB&M	Undetermined	Vein 6 in. to 2 ft. wide	Quartz location in Fischer Gulch 2 mi. S of Dedrick; shaft 50 ft. deep. Idle. (Dunn 92:483.)
	Bonanza	Sec. (?), T 31 N, R 8 W, MDB&M	Undetermined	Vein 4½ to 5 ft. in width strikes E and dips N between slate hanging wall and diabase footwall.	3 claims on W side of Bully Choop Mountain. Developed by adits 100 and 300 ft. long. Ore treated in 3½ ft. Huntington mill and Triumph concentrator. Idle. (Crawford 94:307-308.)
38	Bonanza King (Bonanza Queen, Trinity Bonanza King, United Trinity)	Sec. 12, 13, 24, 25, 30, T 37 N, R 7 W, MDB&M	John J. Vogler and Robert Stuart, Box 1246, Redding		The Trinity Bonanza King and Bonanza Queen groups 4 mi. E of Carrville included 116 quartz claims, 28 millsites, and the Bugle Hill placer, extending 4½ mi. northwestward from the East Fork of the Trinity River. Rich ore shoots were mined from a mineralized shear zone; the property was developed by several thousand ft. of adits, drifts, and stopes. Ore was treated in a 40-stamp mill and cyanide plant. (Craw-

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Bonanza King —Continued				ford 96:440; Brown 16:898-899; Laizure 20:539-540; Logan 26:25-26; Averill 31: 29; 41:63.)
	Bonanza Queen				See Bonanza King.
39	Boomer (Mountain Boomer)	Sec. 19, T 37 N, R 12 W, MDB&M	Hazel Creek Mining Company, Placerville		Quartz claim ½ mi. E of Old Denny located in 1883; developed by 6 adits 60 to 70 ft. in length on vein 2 ft. wide. Said to have produced $350,000; vein developed to depth of 400 ft. on the dip. Idle. (Miller 90:715; Brown 14:895; Averill 41:49.)
	Boston				See Star of the East.
	Boulder Consolidated	Sec. 7, 8, T 38 N, R 5 W, MDB&M	Boulder Consolidated Gold Mines Company, c/o Helen Brown, 1190 E. Colorado St., Pasadena		8 patented claims about 1½ mi. N of Whalan Station. No published description. Idle. (Averill 41:75.)
40	Brooks	Sec. 24, T 9 N, R 7 E, HB&M	State of California		Patented quartz claim 14 mi. N of Denny. No published description. Idle. (Logan 26:28; Averill 41:75.)
	Brown Bear				See Globe, herein.
41	Brown Bear	Sec. 11, 12, 13, 14, 16, 24, T 33 N, R 8 W, MDB&M	E. E. & L. R. Erich, French Gulch	Quartz vein along contact between black slate hanging wall and diorite porphyry footwall; steep dipping. Gold associated with pyrite and galena.	Discovered in 1875 and actively mined until 1912. Intermittent activity since 1912. Gold production 7-10 million dollars. Floatation mill on property. (Irelan 88:639-640; Miller 90:713; Dunn 92:483; Crawford 94:308; 96:440-441; Brown 16:885-886; Averill 33:13-15; 41:27-28; herein.)
	Buck	Sec. 14, T 32 N, R 9 W, MDB&M	Undetermined	Short ore shoot 6 in. wide in slate.	2 claims 5 mi. SE of Douglas City, located in 1890. Adit 210 ft. long; 200 ft. of drifts; stope 40 ft. high, 50 ft. long, 3 ft. wide; some high grade ore mined on the surface. (Irelan 88:643; Brown 16:886.)
42	Bully Choop	Sec. 4, 5, 8, 9, T 31 N, R 8 W, MDB&M	J. J. Harrington, 2067 Placer St., Redding	3-ft.-wide Bully Choop vein strikes W, dips nearly vertically; quartz-stringer zone 300 ft. S, known as Occidental vein. Ore free milling; sulfides increase with depth. Hornblende schist wallrock, with schistose "birds-eye" porphyry locally.	Patented quartz claims on NW slope of Bully Choop Mountain. Adit driven 300 ft. S to Bully Choop vein and then to Occidental vein; both veins stoped for several hundred ft. in length; ore worked in 30-stamp mill; property was fully equipped with a hydro-electrical plant, telephone service, dwellings, sawmill, mining machinery. Idle. (Irelan 88:640; Crawford 94: 308; 96:441; Brown 16:886; Logan 24:182; Averill 33:15-17; 41:29.)
	Cabin				See Golden Chest.
	Calmich (Lapman, Lappin)	Sec. 13, T 33 N, R 8 W, MDB&M	Undetermined	Quartz vein 6-10 in. wide between slate footwall and quartz porphyry hanging wall. Irregular ore shoots of high grade.	4½ mi. E of Lewiston. 3 adits 50 to 450 ft. long, and 300 ft. of drifts. Ore was treated by amalgamation in 2-stamp mill. (Brown 16:894; Averill 33:17.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Calso Group				See Mason and Thayer.
	Carter				See Amy Balch, herein.
43	Chanchelulla	Sec. 12, T 30 N, R 10 W, MDB&M	G. H. Hoffman, Box 133, Proberta	3-in. quartz vein with sulfides strikes N, dips 55° E. Bounded by narrow zone of sheared, oxidized serpentine, in turn enclosed in fresh unaltered serpentine.	5 claims ¾ mi. SW of Deer Lick Springs, located 1956. NW-trending cut, 50 ft. deep at face, opened by bulldozer.
	Chanchelulla	Sec. 1, T 30 N, R 10 W, MDB&M	Undetermined	Quartz vein 3-4 ft. wide strikes N 50° W, dips 47° SW. Second vein 75 ft. to NE is 1 ft. wide, strikes N 30° W, dips 30° SW; is said to assay $16-$20 per ton in gold and silver.	About 12 mi. S of Douglas City. Main vein traced for length of 6,000 ft.; developed by shallow cuts and adit 50 ft. long; second vein developed by inclined shaft 17 ft. deep. (Averill 33:18.)
	Chapman	Sec. 33, T 38 N, R 8 W, MDB&M	Undetermined	Ore shoot 2 ft. wide, 80 ft. long; in serpentine. Some high grade ore.	Mine near Coffee Creek Guard Station, developed by adit 220 ft. in length, 130 ft. of drifts, and winze 40 ft. deep. Ore was worked in 5½ ft. diameter Huntington mill. (Brown 16:886-887.)
	Chicksan Oil Company				See Enterprise 1 and 2, herein.
	Chloride Group				See Globe, herein
	Christian				See Golden Chest.
	Clarence and Ida 1 and 2.	Sec. 29, 32, T 35 N, R 11 W, MDB&M	E. J. Regan and R. C. McGee, Weaverville		A patented claim near the Yellowstone, which see, and the Enterprise 1 and 2, which see herein. No published report. Idle.
44	Clerbus Mae	Sec. 31, T 9 N, R 8 E, HB&M	Jim Robie, Fairfax, and Burtt L. Berry, San Francisco	2-in. quartz vein strikes N 80° W, dips 60° N. Small amount scheelite noted in E drift, 30 ft. from crosscut. Gold content of vein too low for profitable operation.	13 mi. N of Denny. Developed by crosscut adit driven S 10° W for 80 ft. to vein, and drifts 40 ft. E and W of crosscut. (O'Brien 43:142, 330.)
45	Cleveland (Foster, Ida L.)	Sec. 4, 9, 16, T 31 N, R 8 W, MDB&M	C. F. Foster, Box 206, Corning	Quartz vein averaging 8 to 10 ft. in width strikes N 9° E for indicated length of 2500 ft, dips 60° E. Country rock is mica schist, and gneiss. Free milling gold in outcrops; pyrite and sulfides of arsenic and copper present.	On W slope of Bully Choop Mountain. Developed by 4 adits 140 to 820 ft. in length; vein is stoped on 3 levels and ore treated in 10-stamp mill. (Crawford 94:310; 96:442; Brown 16:887; Averill 33: 18-19.)
	Craig				See Mason and Thayer.
	Daisy	Sec. 5, T 33 N, R 8 W, MDB&M	H. S. Blakemore, Tanner, et al., Lewiston	3 veins 1 in. to 2 ft. wide strike N 35° E; 2 are nearly vertical but the most easterly vein dips 60° NW. Quartz is associated with much pyrite and some galena and sphalerite.	Patented claim 2½ mi. N of Lewiston. E vein is developed by adit 150 ft. long, 50-ft. inclined shaft, and 45-ft. vertical shaft. Middle vein has shaft 14 ft. deep. W vein, highest up the hill, has 6- by 8-ft. vertical shaft 50 ft. deep. Idle. (Crawford 96:443.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Dawn of Hope and Dutch Creek Groups	Sec. 6, T 32 N, R 10 W, MDB&M	Undetermined	Vein averaging 12 in. in width strikes NW, dips 45° to 60° NE; is exposed in cuts for length of 500 ft.	5 mi. S of Junction City. Crosscut adit 40 ft. long cuts vein at depth of 30 ft; drift 30 ft. long on vein with some stoping; ore was milled in small ball mill. A large body of quartz was cut on Dutch Creek group; developed by a crosscut adit 150 ft. long. Idle. (Averill 41:33.)
	Democrat	Sec. 12, 13, T 33 N, R 10 W, MDB&M	Undetermined	Lenses and veins of bluish quartz with pyrite in graphitic schist.	15 unpatented claims about 1 mi. S of Weaverville. Developed by crosscut adit 340 ft. long; a second adit 1600 ft. E and 150 ft. lower is 160 ft. in length and had a vein of quartz 14 ft. wide in the face. (Logan 26:17; Averill 33:20-21.)
46	Dixie Queen	Sec. 14, 23, T 32 N, R 9 W, MDB&M	Undetermined	Vein 8 in. wide; some high grade ore containing gold, silver, lead, zinc.	Quartz location 6 mi. SE of Douglas City. Vein developed by an adit 300 ft. long; ore was worked in arrastre driven by water wheel. Ore worth $200 per ton was shipped to a smelter. (Brown 16:887; Logan 26:17; Averill 33:21.)
47	Dorleska	Sec. 17, 20, T 37 N, R 9 W, MDB&M	Undetermined	A northern extension of small dikes in serpentine that occur in the Yellow Rose mine in Siskiyou County.	Quartz mine 11 mi. W of Carrville. Property was equipped with small 10-stamp mill and had estimated production of $200,000. Developed by shaft 350 ft. deep, 3 levels, drifts 150 ft. N and S, and winze 50 ft. deep. Idle for many years; much of the old workings now caved. (Logan 26:18; Averill 31:32; 41:33.)
	Dutch Creek Group				See Dawn of Hope.
	Eagle Bird				See Paymaster.

Photo 18. A Keystone drill.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Eastman Consolidated				See Venecia.
48	Enterprise 1 & 2 (Chicksan Oil Company)	Sec. 33, T 35 N, R 11 W, MDB&M	Dean and Dorothy Love, 620 E. Mines Ave., Stockton	A series of parallel, blanket quartz veins. Free gold in quartz. Gold also associated with galena, sphalerite and pyrite.	Located in 1882 and operated almost continuously for 40 years.(Irelan 88:643; Miller 90: 710-711; Dunn 92:484; Crawford 96:446, 454; Brown 16: 888; Tucker 22:207; Logan 26:18-19; herein.)
	Eureka	Sec. 33, T 35 N, R 10 W, MDB&M	Undetermined	Vein 3 ft. wide in schist.	Quartz location 3 mi. N of Dedrick. Vein developed by adit 400 ft. long; stope 60 by 80 ft. and 4 ft. wide. Ore was worked in arrastre. Idle. (Brown 16:888.)
	Eureka Quartz	Sec. 9, T 31 N, R 8 W, MDB&M	C. F. Foster, Box 206, Corning		Patented claim in Bully Choop district. No publishe dreport. Idle.
	Excelsior	Sec. 9, T 31 N, R 8 W, MDB&M	Undetermined	Vein 8 in. wide between horizontal diabase walls.	On W slope of Bully Choop Mountain. Developed by 5 adits, 100 to 200 ft. long. Ore worked in 6-stamp mill driven by waterwheel. Idle. (Crawford 96:446.)
49	Fairview	Sec. 10, T 34 N, R 8 W, MDB&M	United States Government	Vein averaging 6 ft. in width strikes E and dips 60° N; both walls are black slate.	About 2 mi. SE of Minersville. Developed by 4 adits, 150 to 1500 ft. in length, all connected by raises. Ore was mined in stopes to vertical height of 450 ft. and treated in 20-stamp mill and 3½-ft. Huntington mill. (Brown 16:888; Averill 33:23-24; 41:34.)
	Fischer				See Bear Tooth, herein.
	Fisher Gulch	Sec. 1, T 34 N, R 11 W, MDB&M Sec. 36, T 35 N, R 11 W, MDB&M	Undetermined		Quartz location on Canyon Creek 2 mi. below Dedrick. (Dunn 92:483.)
50	Five Pines (Van Ness)	Sec. 19, 20, 29, T 35 N, R 7 W, MDB&M	Louis, Elbert, and Lester Van Ness, French Gulch	Gold occurs with calcite in slate along contact of slate and meta-andesite.	9½ mi. S of Trinity Center. Principal production was from small but rich pockets, one of which yielded $45,000 in gold in vertical distance of 44 ft.; total production more than $350,000. Adit 450 ft. long on Surprise claim with winze 225 ft. deep and more than 1,000 ft. of drifts; partly caved. (Brown 16:889; Tucker 22:355; Logan 26:20; Averill 33:25-26.)
	Forget-Me-Not	Sec. 8, 9, T 37 N, R 7 W, MDB&M	Undetermined	Ore shoot 100 ft. long and 2 ft. wide strikes N 40° E, dips 20° S.	Quartz location 1½ mi. NE of Carrville. Developed by adit 1,000 ft. long; 400 ft. of drifts from shaft 100 ft. deep; two stopes 50 ft. long, 3 ft. wide, 40 ft. high. Some high grade ore was worked in an arrastre. (Crawford 96:446; Brown 16:889.)
	Foster				See Cleveland.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Fountain Head	Sec. 4, T 34 N, R 11 W, MDB&M	Undetermined	Short ore shoot in slate.	4 mi. N of Helena. Developed by adit 460 ft. long, drifts, and stope. Some high grade ore was worked in 5-stamp mill. (Crawford 96:447; Brown 16: 889.)
	Four Point				See Mason and Thayer.
	General Lee				See Meckel-Fields
	General Washington	Sec. 9, 16, T 31 N, R 8 W, MDB&M	C. F. Foster, Box 206, Corning		Patented claim in Bully Choop district. No published report. Idle.
	Geneva	Sec. 20, T 38 N, R 9 W, MDB&M	Roy Rohlin, Schilling and Earl A. Merritt, Box 26, Beach Haven Terrace, New Jersey		Quartz location 12 mi. NW of Carrville. Small cyanide plant; worked intermittently.
	Gifford	Sec. 3, T 33 N, R 8 W, MDB&M	Undetermined	Series of parallel veins 12 to 24 in. wide strike N 40° E, dip 45° to 70° SE. Quartz contains free gold with pyrite, galena, and arsenopyrite.	4 claims on slope of ridge S of Eastman Gulch, about 3 mi. NE of Lewiston. Developed by 4 crosscut adits up to 700 ft. long. Reported production of $75,000. (Tucker 22:497.)
51	Globe (Brown Bear, Chloride Group, Moonlight, North Star)	Sec. 15, 16, 21, T 35 N, R 10 W, MDB&M	Warren and Bert Gilzean, Junction City; leased to Dan Conger and J. C. Dickey, Box 18, Junction City (1957)	Series of white quartz lenses in a shear zone in schistose hornblende diorite.	A 100-ton cyanide plant operated 1913-1918; dismantled. Intermittent operations. (Miller 90:711-712; Dunn 92:483; Brown 16:889-891; Laizure 20:540; Logan 26:20-21 Averill 33:28; 41:35; herein.)
	Golden Bow No. 5	Sec. 4, T 34 N, R 8 W, MDB&M	L. S. Freed, Olinda		11 claims near Minersville; 2 parallel veins developed by short adits and shallow shafts. Owner claims vein material averaged $6 in gold for width of 63 ft. in one crosscut adit.
	Golden Chest (Bell, Bette, Cabin, Christian)	Sec. 9, T 35 N, R 11 W, MDB&M	Carl F. Christen, Clarence A. Blank, Jr., 669 Alamo Ave., Oakland	Fissure vein 2 ft. wide, strikes E and dips 40° S; slate walls.	5 claims 9 mi. N. of Helena. Developed by adit 490 ft. long and several hundred feet of drifts and stopes; worked to depth of 150 ft. A good grade of ore was worked in 5-stamp mill. (Miller 90:711; Crawford 96:447; Brown 16:891.)
52	Golden Jubilee (Trinity Gold Mines, Inc.)	Sec. 4, T 37 N, R 8 W, MDB&M	E. E. Davis, Redding	Fissure vein 3 to 8 ft. wide strikes N 20° E, dips 75° to 85° E; vein is white quartz with free gold, sylvanite, pyrite, and galena; associated with lamprophyre dike intruded into grandiorite.	10 quartz claims 5 mi. NW of Carrville. Developed by 7 adits up to 2700 ft. in length. Ore was treated in 10-stamp mill and small cyanide plant. Idle since 1936 except for assessment work. (Brown 16: 891; Laizure 20:540; Logan 26:21-22; Averill 31:37-40; 41:36.)
	Golden King				See Jumbo.
	Golden Queen				See Jumbo.
	Golden Star	Sec. 2, T 33 N, R 10 W, MDB&M	Undetermined		Quartz location about 1 mi. W of Weaverville. No published report. Idle.
	Gold Hill				See Woodrat.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Gold Hill Consolidated (Live Oak, Mountaineer, Talc)	Sec. 32, T 37 N, R 6 W, MDB&M	B. and E. Rodgers and R. C. Glassburn, Trinity Center		Includes 4 patented claims about 6 mi. E of Trinity Center. No published report. Idle.
	Gold Leaf and Great Eastern	Sec. 7 (?), T 38 N, R 5 W, MDB&M	Undetermined	A vein 2½ to 4 ft. wide strikes NW, dips 45° S.	2 claims 10 mi. W of Castella. Developed by an adit 125 ft. long. (Crawford 94:311; Laizure 22:298.)
	Graig	Sec. 4, T 34 N, R 11 W, MDB&M	Undetermined		Quartz claim 4 mi. N of Helena. No published report.
53	Grand National (Tangle Blue)	Sec. 25, T 39 N, R 8 W, MDB&M	E. E. Erich, French Gulch	Quartz vein 4 ft. wide striking easterly was followed for 700 ft. to a shear zone 23 ft. wide which strikes N and dips 70° E.	5 mi. N of Carrville. Ore was mined from shrinkage stope 100 ft. long, 15 ft. wide, 60 ft. high; short shoot of good ore was mined from winze 50 ft. deep. Ore was crushed in 5-stamp mill, ground in ball mill, and concentrated by flotation. Mill and equipment are in wrecked condition. Idle. (Averill 41:38.)
	Gunbarrel	Sec. 4, T 8 N, R 8 E, HB&M	Undetermined		Old quartz mine about 2½ mi. N of Old Denny. No published report. Idle.
54	Gypsy Queen Group	Sec. 23, T 38 N, R 9 W, MDB&M	Leone Conant, et al., Redding		Quartz locations 1¼ mi. NW of Carrville. Some development work was done on a quartz vein 2½ mi. N of the road on Coffee Creek. Assessment work only. (Averill 41:39.)
55	Hardscrabble (Keating)	Sec. 15, T 38 N, R 9 W, MDB&M	Undetermined		11 mi. NW of Carrville. A deposit similar to that of the Dorleska mine, which see, and the Yellow Rose Mine in Siskiyou Co. A small production was run through a 2-stamp mill about 1920. (Logan 26:23.)
	Hardtack	Sec. 6, T 37 N, R 12 W, MDB&M	Undetermined	A little high grade ore was mined from an ore shoot 80 ft. long and 18 in. wide in quartz porphyry.	About 3 mi. N of Old Denny. An adit 320 ft. long, shaft 200 ft. deep, and 400 ft. of drifts. (Crawford 96:448; Brown 16:892.)
	Hard Times	Sec. 6, T 37 N, R 12 W, MDB&M	Undetermined	Flat quartz vein 2 ft. wide.	About 2½ mi. N of Old Denny. Developed by adit 210 ft. long and 400 ft. of drifts; some rich ore was mined. (Crawford 96:448; Brown 16:892.)
	Hayfork				See Mueller.
56	Hazel D Group	Sec. 32 (?), T 7 N, R 7 E, HB&M	Dave and George Johnston, 51 N.E. Weidler St., Portland, Oregon (1948)	Gold occurs in quartz fragments and seams in hornblende diorite.	Mine about ½ mi. NW of Denny, developed prior to 1942 by 2 adits, a winze, and one stope. Some ore was milled with a 1-stamp mill, 2 ball mills, classifier and sluice boxes.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
57	Headlight Consolidated	Sec. 20, 21, T 37 N, R 7 W, MDB&M	E. J. Regan, Weaverville, and Zack Anderson, Santa Rosa	Flat gossan-capped ore body covering two acres, averaging 40 ft. in thickness.	1 mi. SE of Carrville. Overburden stripped by hydraulic mining; iron-stained ore averaging $6 per ton mined around 1900 through glory hole. Produced about $5,000 before mill burned. In 1910 property was equipped with new 40-stamp mill, cyanide plant of 250-ton daily capacity, electric power plant, sawmill, and numerous buildings. Abundant pyrite and some copper found at shallow depth could not be treated in mill, and mine closed down around 1912. (Crawford 96:449; MacDonald 13:21-25; Brown 16: 892; Logan 26:22-23; Averill 31:43.
	Headstrom	Sec. 9, 16, T 37 N, R 7 W, MDB&M	C. L. Headstrom, Carrville (1941)		Quartz location 3 mi. E of Carrville. No published report. Idle.
58	Henry Clay	Sec. 11, T 33 N, R 8 W, MDB&M	H. C. Hansen, 142 De Soto St., San Francisco	Quartz vein 4 ft. wide strikes NE, dips 50° to 70° N. Workings are in diorite-porphyry dike intruded into Bragdon slate.	Patented land 4 mi. NE of Lewiston. Developed by adits 250 and 400 ft. long. A former producer. (Crawford 96:447; Averill 41:40.)
	Hidden Treasure	Sec. 9 (?), T 35 N, R 11 W, MDB&M	Undetermined	Vein with maximum width of 3 ft. forms lens 50 ft. long.	Prospect on East Branch of East Fork of North Fork of Trinity River, 14 mi. N of Helena. Developed by adit driven 120 ft. N. (Logan 26:23.)
	Hidden Treasure	Sec. 20 (?), T 8 N, R 8 E, HB&M	Undetermined	8-in. quartz vein.	On Slide Creek 1 mi. S of Old Denny. Developed by crosscut adit 200 ft. long and winze 60 ft. deep. (Crawford 96:449.)
	Hope	Sec. 17, 18, T 37 N, R 7 W, MDB&M	Laura S. Atkins, 215 Alameda Rd., Berkeley		Patented claim 1 mi. E of Carrville. No published report. Idle.
59	Hunter	Sec. 16, T 8 N, R 8 E, HB&M	Hazel Creek Mining Company, Placerville	Vein 6-in. wide strikes N 73° W, dips 40° N, between slate footwall and diorite hanging wall. Some high-grade ore.	100 acres in New River district about ½ mi. N of Old Denny, located in 1888. Crosscut adit 500 ft. long to vein and 600 ft. of drifts; one stope and raises 60 to 80 ft. high. Ore treated in 10-stamp mill and with Frue vanner. Idle. (Crawford 96:450; Brown 16:893.)
	Ida L.				See Cleveland.
60	Index (Quimby)	Sec. 29, T 7 N, R 7 E, HB&M	J. E. Larsen, Denny		Quartz vein about 1½ mi. N of Denny. Developed by adit 150 ft. long on vein, and 2 crosscut adits 125 and 400 ft. long connected by raise 122 ft. high; 150 ft. of drifts. Ore treated in 6-stamp mill and on tables; ore carried copper and arsenic and only about 50% of gold amalgamated. Idle. (Brown 16:896-897.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
61	Iron Dike	Sec. 18, T 37 N, R 7 W, MDB&M	Undetermined	Fine-grained greenish metabasalt dike 60 ft. wide and a mile long strikes N 30° E, dips 45° W; dike cuts serpentine and has been replaced locally by quartz and pyrite. Postmineral shear planes trend N 40° W, dip steeply W. Nearly all of dike contains a little gold.	At Carrville. (MacDonald 13:28-29.)
	Isabel	Sec. 7, T 35 N, R 10 W, MDB&M	Undetermined	Short ore shoot in granite	2½ mi. N of Dedrick. Developed by adits 90 and 210 ft. long; said to have produced some high grade ore. Idle. (Brown 16:893.)
	Jacoby	Sec. 34 (?), T 34 N, R 8 W, MDB&M	Undetermined	Ore shoot 14 in. wide and 100 ft. long strikes NW and dips 15° S.	80 acres 4 mi. NE of Lewiston in Eastman Gulch. Developed by adit 550 ft. long, 400 ft. of drifts, and stope 60 ft. long, 3 ft. wide, and 90 ft. high. Some high grade ore worked in 2-stamp mill. (Brown 16:893-894.)
	Jerusalem	Sec. 9, T 31 N, R 8 W, MDB&M	Undetermined	Ore shoot 2 ft. wide extending 200 ft. NW.	Claim on W slope of Bully Choop Mountain, about 11 mi. SE of Douglas City. Developed by adit 560 ft. long and 300 ft. of drifts. Some rich ore produced at one time. Idle. (Crawford 96:450; Brown 16:894.)
62	Jumbo (Golden King, Golden Queen)	Sec. 28, T 9 N, R 7 E, HB&M	Undetermined		13 mi. N of Denny. Quartz vein 6 to 25 ft. wide developed by crosscut adit 75 ft. in length to the vein and drift 15 ft. long. A second crosscut adit 50 ft. long on opposite end of Golden King claim cut a vein 7½ ft. wide which was drifted on for 50 ft. 4 adits on Golden Queen, up to 135 ft. long. Ore was low grade. (Averill 41:36-37.)
	Jumbo No. 1 to 12	Sec. 22, T 38 N, R 8 W, MDB&M	Coffee Creek Gold Mining Co., c/o R. W. Grant, 5225 Belvedere St., Oakland 1	Vein 15 ft. wide strikes E, dips 60°-70° N.	Group of claims about 6 mi. NW of Carrville. Prospected by trenches; no production recorded.
	Keating				See Hardscrabble.
63	Kelly	Sec. 17, T 31 N, R 11 W, MDB&M	T. C. Kelly, Hayfork	Stringers of white quartz in slate. Gold in quartz associated with pyrite, arsenopyrite and galena.	Rich specimen ore. Worked intermittently. (Averill 41:42-43; herein.)
	Keno	Sec. 19, T 35 N, R 7 W, MDB&M	Undetermined		Quartz location 13 mi. NE of Lewiston. No published description. (Averill 41:81.)
64	La Clair	Sec. 13, 24, T 35 N, R 8 W, MDB&M	L. E. Van Ness, et al., French Gulch	Contains free gold.	Patented claim about 9 mi. S of Trinity Center. Developed by adits, drifts, and raises. (Averill 33:33.)
	Lapman				See Calmich.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Lappin				See Calmich.
65	Larry	Sec. 11, T 33 N, R 8 W, MDB&M	E. L. McConnel, Castella	Quartz stringers a few inches wide, containing free gold, pyrite, and galena, are associated with dikes of fine-grained porphyry which are intruded into black slate.	About 4 mi. NE of Lewiston. Developed by adits and surface cuts. Idle. (Averill 41:45.)
	Last Chance	Sec. 2, T 33 N, R 8 W, MDB&M	Undetermined	Narrow vein in slate; pocket gold.	Includes 60 acres in Eastman Gulch 5 mi. NE of Lewiston. Developed by adit 220 ft. long, 250 ft. of drifts, and a stope. Idle. (Brown 16:894.)
	Laurel				See Phillips
66	Layman	Sec. 20, T 31 N, R 11 W, MDB&M	Alanzo Layman, Hayfork; leased to George Martin, Box 716, Hayfork		Adjoins Kelly mine about 3 mi. SE of Hayfork. An open cut 100 ft. long and a new adit were driven to the vein. Worked intermittently. (Averill 41:49-50.)
67	Liberty (South Liberty)	Sec. 4, T 37 N, R 8 W, MDB&M	Liberty Gold Mine, Inc., c/o Victor L. Duhem, Trustee, 6127 Harwood Ave., Oakland	Quartz vein 20 in. wide.	About 5 mi. NW of Carrville. Developed by shaft 145 ft. deep, and drifts at bottom 30 ft. long in each direction; some high grade ore sorted and shipped from development work. (Logan 26:23-24.)
	Liberty Bell	Sec. 13, T 34 N, R 8 W, MDB&M	Undetermined		4 mi. SE of Minersville. Developed by adit 100 ft. long driven toward projection of quartz vein which assayed $15 in free gold on the surface, 150 ft. above. (Laizure 20:544; Logan 26:67.)
	Lila	Sec. 7, T 33 N, R 7 W, MDB&M	Howard Wendt and Ike Wertz, French Gulch	Quartz fissure veins in Bragdon slate contain free gold and pyrite.	Patented claim about 6 mi. E of Lewiston. Old workings consist of several hundred feet of adits and some stopes. Ore was hauled to stamp mill at Calmich mine. (Averill 33:34.)
	Little Alice				See Little Anna.
68	Little Anna (Little Alice, Little Annie, R.A.M.)	Sec. 13, T 34 N, R 9 W, MDB&M	C. H. Foster and James McLaughlin, Redding	Vein of soft, yellow rock with seams of quartz an inch wide containing gold.	3½ mi. SW of Minersville. Adit on the Little Annie group driven on vein; cut 40 ft. long on R.A.M. group exposed 3-ft. width of brown hematite and yellow limonite with bunches and small lenses of quartz that contain gold. (Averill 33:45-46.)
	Little Annie				See Little Anna.
	Little Buster (West Point)	Sec. 14 (?), T 33 N, R 8 W, MDB&M	A. J. Schweppe, 657 Coleman Building, Seattle, Wash.		In Deadwood district 3½ mi. E of Lewiston; 5 ft. vein proven for 1500 ft. on surface; greatest depth opened on vein is 500 ft; 200 ft. of drifts. Idle. (Laizure 20:540.)
	Live Oak				See Gold Hill Consolidated.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Log Cabin Group	Sec. 21, 28, 29, 33, T 37 N, R 6 W, MDB &M	B. and E. Rodgers and R. C. Glassburn, Lewiston		A large group of more than 10 patented claims about 7 mi. NE of Trinity Center.
69	Lone Jack	Sec. 33, T 35 N, R 11 W, MDB&M	Undetermined	Quartz vein 2 ft. wide strikes NE, dips gently W.	5 mi. N of Helena. Developed by 4 adits 160 to 315 ft. long, some drifts. Ore worked in arrastre, then later in 5-stamp mill. (Dunn 92:482; Crawford 96:454.)
	Lone Star				See Meckel-Fields.
	Mammoth	Sec. 9, T 31 N, R 8 W, MDB&M	C. F. Foster, Box 206, Corning		Patented claim in Bully Choop district. No published report. Idle.
70	Maple	Sec. 29, T 35 N, R 10 W, MDB&M	Undetermined	Vein 12 in. wide strikes NW between slate and granodiorite walls.	Pocket mine 2 mi. SE of Dedrick. Developed by adit 230 ft. long; one stope, 30 by 40 ft. Ore worked in arrastre 12 ft. in diameter driven by 15-ft. overshot water wheel; water was brought from Canyon Creek through a ditch 1 mi. long. Idle. (Crawford 94:312; 96:455; Brown 16: 894-895; Averill 41:47.)
	Marcellus Group	Sec. 33, T 38 N, R 9 W, MDB&M	Undetermined	Small quartz veinlets from a fraction to several inches in width strike E into andesite dike that strikes a little E of N. Veinlets contain quartz, calcite, pyrite, and free gold.	10 mi. NW of Carrville. Adit 120 ft. long driven in S direction along W side of dike. Carefully sorted ore treated in Gibson mill driven by water power. (Averill 41:47.)
71	Mary Blaine	Sec. 18, T 37 N, R 12 W, MDB&M	Undetermined	Vein 26 in wide showing 12 in. of quartz.	Old mine 1½ mi. NE of Old Denny. Developed by adit 130 ft. long to vein, drifts 40 and 80 ft. long, and winze 120 ft. deep. Idle. (Crawford 96: 455.)
72	Mason and Thayer (Black Diamond Calso Group, Craig, Four Point)	Sec. 32, 33, T 35 N, R 10 W, MDB&M	The Calso Company, c/o L. H. Penny Company, Russ Bldg. San Francisco	Quartz veins carrying gold and sulfides occur in hornblende schist associated with dioritic dikes.	About 1½ mi. SE of Dedrick. Developed by crosscut adit 800 ft. long to vein and 1200 ft. of drifting; two levels above adit are 260 ft. long and are connected by raises 70 and 60 ft. high. Ore developed assayed $3 to $7 per ton. Property was equipped with 5-stamp mill, 2 flotation cells and concentrating tables. Only a few hundred tons of material were treated. (Brown 16:889; Logan 26:16-17; Averill 33:36.)
	May Blossom	Sec. 16, T 34 N, R 8 W, MDB&M	Undetermined	Vein 6 in. wide striking NW has been proven on surface for 100 ft.	About 2 mi. S of Minersville. Developed by adit to the vein at depth of 55 ft., and drift 10 ft. long. (Laizure 20:540-541.)
73	McClaron Group	Sec. 4, 9, T 35 N, R 11 W, MDB&M	Undetermined		9 mi. N of Helena. Adits driven for 150 ft. and 350 ft. on quartz vein 1½ ft. wide; in 1939 some ore was concentrated on a Wilfley type table; ore said to run $16 in gold. (Logan 26:24; Averill 41:48.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
74	Meckel-Fields (General Lee, Klondike, Lone Star)	Sec. 15, 21, T 34 N, R 10 W, MDB&M	Undetermined	Vein 6 to 24 in. wide consists of lenses of milky quartz; strikes N 75° E in hornblende schist wall-rock. Free-milling gold.	6 mi. NW of Weaverville. Developed by 4 adits, longest 230 ft. Pocket near portal of one adit reportedly yielded $2,500. (Logan 26:19-20; Averill 33:24-25; 41:48.)
	Million Dollar	Sec. 18, T 33 N, R 9 W, MDB&M	Barney Phillips Estate, Weaverville	18 in. of blue quartz in reddish brown mica schist exposed in floor of adit. Quartz contains free gold, a little cinnabar.	1 mi. SE of Weaverville. Prospected by adit driven S 77° E for 18 ft. Small amount of ore was ground in ball mill and run through sluice box lined with expanded metal over burlap. Idle.
	Modoc	Sec. 31, T 9 N, R 8 E, HB&M	Undetermined	Vein 14 in. wide strikes N 30° W, dips 50° S.	Claim 3 mi. NW of Old Denny, located in 1889. Adits 480 and 160 ft. long; 600 ft. of drifts, and stope 80 by 3 by 60 ft. Some high grade ore worked in 1-stamp mill driven by water power. Idle. (Crawford 96:456; Brown 16:895.)
75	Modoc Gold Mines, Inc. (Wagner)	Sec. 34, T 38 N, R 8 W, MDB&M; Sec. 3, T 37 N, R 8 W, MDB &M	Undetermined	Quartz vein in granodiorite S of contact with serpentine. Average width 2 ft.; strikes N 30° E, dips 70° E. Ore shoots 30 to 50 ft. long.	About 4 mi. NW of Carrville. 2 adits 50 and 150 ft. long connected by 57-ft. raise. Ore treated in small cyanide plant. (Averill 41:48-49.)
	Mohawk	Sec. 18 (?), T 37 N, R 7 W, MDB&M	Undetermined	Vein 2 ft. wide along contact of serpentine and porphyry.	3 claims 1 mi. NW of Carrville. Shaft on vein 15 ft. deep; crosscut adit 60 ft. long. Idle. (Crawford 96:456.)
	Monarch	Sec. 18, T 36 N, R 9 W, MDB&M	Undetermined		Claim 13 mi. NW of Minersville. No published description. Idle. (Averill 41:83.)
	Montezuma				See Patillo.
	Moonlight				See Globe, herein.
	Morning Star	Sec. 3, T 34 N, R 11 W, MDB&M	L. E. Fear, 505 Dowling Blvd., San Leandro		Patented claim about 4 mi. N of Helena. No published report. Idle.
	Mountain Boomer				See Boomer.
	Mountaineer				See Gold Hill Consolidated.
76	Mueller (Hayfork)	Sec. 21, T 31 N, R 11 W, MDB&M	Mueller Estate, c/o Otto R. and Ernest A. Mueller, 3721 25th St., San Francisco	Fissure veins carrying quartz, gouge, free gold, and sulfides occur in a series of slate and chert. Veins strike N 80° W, dip 46° N; average width 4 ft.	Group of unpatented claims 4 mi. SE of Hayfork. Main adit 400 ft. long, of which 320 ft. is on vein; several cross veins developed. Some ore treated in 10-stamp mill and by flotation. (Brown 16:892; Tucker 22:207; 600; Averill 41:49-20.)
77	New Blue Jay (Blue Jay)	Sec. 13, T 37 N, R 8 W, MDB&M	State of California	Coarse free gold occurs in iron and manganese-stained gouge in large metabasaltic dike at intersections with local shears and fissures.	2 claims 1½ mi. W of Carrville located in 1886. Developed by 3 adits 130 to 990 ft. long connected with raises; ore shoot 50 ft. long was stoped 130 ft. high to the surface; several rich pockets were mined, one yielding $60,000. (Brown 16:885; MacDonald 13:40-41; Laizure 20:541; Averill 31:29.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Non-Pareil	Sec. 9, T 37 N, R 7 W, MDB&M	Undetermined	2 parallel veins; ore shoot 110 ft. long and 2 ft. wide strikes N 40° E, dips 40° SE.	2 claims 2 mi. N of Carrville. Adit 420 ft. long, 150 ft. of drifts, and winze 30 ft. deep; said to have produced $20,000. Idle. (Brown 16:895.)
	Norman H.	Sec. 25, 26, T 34 N, R 8 W, MDB&M	Orr M. Chenoweth, et al., Redding		Claim 6 mi. NE of Lewiston. No published report.
	North Star	Sec. 32, T 35 N, R 11 W, MDB&M; Sec. 5, T 34 N, R 11 W, MDB&M	Undetermined	Vein strikes NW, dips 30° SW.	Claim 5 mi. N of Helena. An extension of the Enterprise lode located in 1884. Ore shoot 300 ft. long developed by drifts and stopes. Ore treated in 10-stamp mill driven by water power; said to have produced $300,000. (Irelan 88:642; Miller 90:710; Dunn 92:482; Crawford 96:458; Brown 16:895-896.
	Oriole	Sec. 25, T 32 N, R 9 W, MDB&M	Mariel L. Beohm, 1441 Jones St., San Francisco	Vein 1 ft. wide in slate.	About 6½ mi. SW of Douglas City. Developed by adit 140 ft. long, 80 ft. of drifts, and 1 stope 40 by 3 by 40 ft.; ore was crushed in a ball mill driven by water power; worked as a pocket mine. (Brown 16:896.)
	Oro Grande				See Strode
78	Ozark	Sec. 4, 9, T 34 N, R 11 W, MDB&M	Undetermined	Short ore shoots 2 ft. wide in slate.	3½ mi. N of Helena. Developed adit 420 ft. long, 500 ft. of drifts, and stope 40 ft. by 3 by 60 ft. Some high grade ore mined from pockets and treated in 10-ft. arrastre. Idle. (Dunn 92:482; Crawford 96:459; Brown 16:896.)
	Patillo (Montezuma, San Miguel, Snowshoe)	Sec. 15, 21, T 34 N, R 10 W, MDB&M	Estate of J. J. Jackson, Weaverville	Vein strikes N, dips 45° W; consists of lenses of quartz containing finely-divided free gold. May be extension of vein on adjoining Meckel-Fields property, which see.	5 mi. NW of Weaverville. Developed by adit 228 ft. long, of which 114 ft. was drifting. 400 tons of ore recovered from this work assayed $18 per ton of which $12 was recovered by amalgamation in small Huntington Mill; second crosscut 120 ft. lower is 165 ft. long with 48 ft. of drifting on vein 18 in. wide assaying $4.62 per ton in gold. (Laizure 20:542; Logan 26:24; Averill 41:53.)
79	Paymaster (Readjuster)	Sec. 2, T 33 N, R 8 W, MDB&M	Undetermined	3-ft. quartz vein strikes E to N 65° E, dips 71° N to nearly vertical. Locally 18 in. of gouge that contains quartz with free gold. Vein at contact of 25-ft. diorite porphyry intruded into Copley greenstone.	About 1½ mi. N of Deadwood. Vein developed by several hundred feet of drifts from each of several adits; considerable stoping. Ore treated by crusher, small ball mill, amalgamation plates, and jig. In late 1930's, 30 to 40 tons of ore reportedly yielded 12 oz. gold. (Averill 29:43; 41:53.)
80	Phillips (Laurel)	Sec. 14, T 32 N, R 9 W, MDB&M	J. W. Phillips Estate, Manteca	Small quartz vein 6 to 8 in. in width strikes NW and dips vertically.	About 5 mi. SE of Douglas City. Developed by 4 adits 100 to 250 ft. in length; some ore worked in an old arrastre. (Brown 16:894; Laizure 20: 541; Averill 33:44.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Poor Boy	Sec. 16 (?), T 33 N, R 12 W, MDB&M	W. M. Keenan, Box 73, Jamul	Vein 2 to 4 ft. wide strikes N, dips 45° W; can be traced for several hundred feet.	Prospect 4 mi. by trail S of Big Bar. Developed by surface cuts at 100-ft. intervals for 400 ft. along strike; samples taken from cuts assayed $3 to $34 per ton. (Averill 41:55.)
	Pound Cake	Sec. 8, 9, T 31 N, R 8 W, MDB&M	Ellery, Cotton and Gibson, c/o Margaret Ellery, 3290 Delaware St., Oakland 2		Patented claim on W slope of Bully Choop Mountain about 10 mi. SE of Douglas City. No published description. Idle. (Averill 41:85.)
	Quimby				See Index.
81	Ralston	Sec. 21, T 35 N, R 10 W, MDB&M	G. W. Cordes, et al., Junction City	Vein 18 in. to 24 in. wide strikes NE, dips 45° SE; ore carries about 5% pyrite and chalcopyrite.	About 2 mi. NE of Dedrick. Developed by adit 120 ft. long on vein. 4 older adits are 50 to 385 ft. in length; 1 stope measured 60 by 3 by 80 ft. 7½ tons of sorted ore shipped to Selby smelter netted $2,230. Ore treated by 2-stamp mill and amalgamation. Small scale mining and development continues. (Brown 16:897; Averill 41:55.)
	R.A.M.				See Little Anna.
	Ray	Sec. 12, T 33 N, R 8 W, MDB&M	Undetermined	Vein 10 ft. wide in diabase strikes E, dips 60° N.	About 5 mi. NE of Lewiston. Developed by adit 280 ft. long and 200 ft. of drifts. Had small production of gold from pockets. Idle. (Crawford 96:460; Brown 16:897.)
	Readjuster				See Paymaster.
	Reindeer	Sec. 3, T 37 N, R 8 W, MDB&M	Wagner Mining and Milling Company, et al,. Berkeley	Ore shoot 18 in. wide strikes NE, dips 75° NW. Ore free milling, reportedly of good grade	8 unpatented claims about 4 mi. NW of Carrville. Developed by adit 340 ft. long and 200 ft. of drifts. Idle. (Crawford 96: 461; Brown 16:897).
	Ridgeway	Sec. 6, T 37 N, R 12 W, MDB&M	Undetermined	Ore shoot 200 ft. long and 1 ft. wide with diabase walls.	About 3 mi. N of Old Denny. Developed by adits, inclined shaft 200 ft. deep, and 400 ft. of drifts. Ore mined to maximum depth of 400 ft. and treated in 10-stamp mill; production of $80,000 reported. (Crawford 96:461; Brown 16: 897; Miller 90:715.)
82	Salmon Summit (Summit)	Sec. 23, T 9 N, R 7 E, HB&M	Fred B. Langworthy, E. Moorman, et al., Box 342, Eureka	6-ft. shear zone on Redfield claim strikes NE, dips 30° E; contains quartz lenses with iron sulfides and free gold. 1-ft. vein on Salmon claim strikes NE, dips 80° N.	2 claims 7 mi. NW of Old Denny. Adit 50 ft. long to shear zone on Redfield claim. Salmon claim developed by adit 50 ft. long, shaft 70 ft. deep, and 300 ft. of drifts. Ore milled in 2-stamp mill driven by gasoline engine. Small producer. (Averill 41:55-56.)
	San Miguel				See Patillo.
83	Scorpion	Sec. 27, T 31 N, R 11 W, MDB&M	Harry and Claudie Holst, Box 345, Hayfork		Gold prospect about 5 mi. SE of Hayfork, developed by adit. No production reported.

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
84	Sherwood	Sec. 9, T 8 N, R 8 E, HB&M	Hazel Creek Mining Company, Placerville	Vein 4 to 14 in. wide strikes N 80° W, dips 53° N.	About 1 mi. N. of Old Denny. Developed by adit 240 ft. long and winzes 90 and 50 ft. deep; ore stoped to surface in places. 2-stamp mill was run by water power; production reported to be $100,000. (Miller 90:715; Crawford 96:462; Laizure 20: 542.)
85	Silver Grey	Sec. 33, T 35 N, R 10 W, MDB&M	Estate of George H. Bergin, et al., Weaverville	Quartz lenses occur in fracture striking SE and dipping 50° NE in biotite-hornblende diorite.	2 mi. SE of Dedrick. Developed by adits, drifts, and stopes. Ore treated in arrastre and Huntington mill driven by water power. Idle. (Crawford 94:313; 96: 462; Brown 16:897; Averill 41:58-59.)
86	Slake Shack	Sec. 28, T 7 N, R 7 E, HB&M	D. E. McGinsey, Denny	Quartz fragments containing chalcopyrite, bornite, and minor azurite and malachite occur in fractured hornblende diorite. Some free gold.	Prospect in New River district 1 mi. N of Denny. Short adit trending S 30° W and open cut. Idle except for assessment work.
	Smith	Sec. 19, 30, 31, T 36 N, R 9 W, MDB&M	Undetermined	Short ore shoot in granodiorite.	12 mi. NW of Minersville. Developed by adit 310 ft. long; small pocket mined on surface. Idle. (Dunn 92:483; Crawford 96:462; Brown 16:898.)
	Snowshoe				See Patillo.
	South Liberty				See Liberty.
	Star of the East (Anna McGlue and Thorne, Boston)	Sec. 13, T 33 N, R 8 W, MDB&M	Florence R. Clayton, Lewiston	Small vein in quartz porphyry.	2 patented claims 5 mi. E of Lewiston. Developed by adit 310 ft. long and several hundred feet of drifts; some high-grade ore mined. (Brown 16: 898.)
87	Starvation	Sec. 11, T 33 N, R 8 W, MDB&M	Foster L. Lewis, 2760 Alfreda Way, Redding	Narrow quartz veins in oxidized zone; ore consists of quartz and oxides of iron carrying free gold.	4 mi. NE of Lewiston. Developed by 2 adits, one 65 ft. long and another 30 ft. lower 200 ft. long with stope 30 ft. in length. Some high-grade ore mined; milled in small stamp mill. (Averill 41:59.)
88	Strode (Oro Grande)	Sec. 8, 9, T 37 N, R 7 W, MDB&M	Undetermined	Greenstone country rock cut by small masses of granodiorite, aplite dikes, and lamprophyre dikes. 2½- to 4-ft. vein strikes N 60° W, dips steeply N. Gold in vein associated with iron and manganese oxides, pyrite, and calcite.	About 1 mi. NE of Carrville. Developed by adits, drifts, and stopes. Ore treated in 10-stamp mill and tailings subsequently treated in cyanide plant; was a good producer. (Crawford 94:313; 96:458-459; MacDonald 13:39-40; Brown 16:896; Tucker 22:207, 257, 600; Logan 24:182, Averill 31:54.)
	Summit				See Salmon Summit.
	Sunny Slope	Sec. (?), T 34 N, R 8 W, MDB&M	Undetermined	Quartz vein 3 to 6 ft. wide strikes N 70° W, dips 35° N.	35 mi. NW of Redding. Developed for 100 ft. by open cut; adit driven 200 ft. toward vein from 56 ft. below outcrop. (Laizure 20:542-543.)
	Sunshine	Sec. 33, T 38 N, R 8 W, MDB&M	D. M. Middleton, 627 DeForrest St., Corpus Christi, Texas	Vein assayed $7.80 per ton.	About 5 mi. NW of Carrville. Developed by drift 75 ft. long. (Logan 26:25.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Supplanter	Sec. 23, T 7 N, R 7 E, HB&M	Undetermined	Small stringers of high grade ore on surface turned base in depth.	2 mi. NE of Denny. Developed by several adits, 1200 ft. of drifts, and a stope; ore carried over tramway 1500 ft. long to 3-stamp mill. Idle. (Brown 16: 898.)
	Talc				See Gold Hill Consolidated.
	Tangle Blue				See Grand National.
	Toughnut	Sec. 17, T 37 N, R 12 W, MDB&M	Grover and Willard Ladd, Denny	Vein averages 8 in. in width, strikes NW and dips 45° E; a little high-grade ore was mined from an ore-shoot 100 ft. long and 2 ft. wide.	Patented claim 2 mi. N of Denny, located in 1890. Developed by 4 adits 100 to 200 ft. long. Idle. (Miller 90:715; Crawford 96:464; Brown 16:898.)
	Triangle	Sec. 11, T 33 N, R 8 W, MDB&M	Undetermined	Some high-grade ore mined from small vein in slate.	Claim about 4 mi. NE of Lewiston. Developed by adit 290 ft. long, 300 ft. of drifts, and stope 40 by 3 by 60 ft. Idle. (Brown 16:898.)
	Tri-M Partnership	Sec. 25, T 32 N, R 9 W, MDB&M	F. L. Morrison, W. L. Merrill and Wm. Maakestad, Sacramento (1937)		About 6½ mi. SE of Douglas City. Small cyanide plant operated on Oriole claim, which see, to treat 210 tons of tailings in 1937. Idle. (Averill 41:62.)
	Trinity Bonanza King				See Bonanza King.
	Trinity Gold	Sec. 6, T 31 N, R 9 W, MDB&M	S. G. Lovejoy, et al., Douglas City (1941)	Quartz stringers and silicified schist.	5½ mi. S of Douglas City. Quartz exposed in cut 70 ft. long and 3 ft. deep, and in adit 65 ft. long 100 ft. below cut. 19 samples taken from various places averaged $3.53 in gold. Idle. (Averill 33:52-53.)
	Trinity Gold Mines, Inc.				See Golden Jubilee.
	Trinity Mohawk	Sec. 26, 27, T 34 N, R 8 W, MDB&M	Undetermined	Series of parallel veins 3 to 10 ft. wide, strike N 80° W, dip 25° to 45° N.	About 5½ mi. NE of Lewiston. Developed by 2 crosscut adits 194 ft. and 200 ft. long, several hundred feet of drifts and small stope. Ore crushed to 30 mesh and amalgamated. (Tucker 22:498; Logan 26:26, 32; Averill 33:53.)
	True Blue	Sec. 20, T 37 N, R 7 W, MDB&M	State of California	Ore shoot 12 in. wide, 80 ft. long.	Patented claim near Stringtown located in 1892. Mined through adit 300 ft. long; small pocket taken out in 1911. Idle (Brown 16:900.)
	True Fissure	Sec. 15, T 35 N, R 10 W, MDB&M	Undetermined	Ore shoot 250 ft. long and 4 ft. wide, between schist and granite walls.	40 acres 2 mi. N of Dedrick; a strong, well-defined ledge was developed by adits 460 and 120 ft. long. (Brown 16:900.)
89	Uncle Sam	Sec. 8, T 8 N, R 8 E, HB&M	J. Cullich (1941)	Vertical quartz vein strikes N 40° W.	About 3 mi. N of Old Denny. Developed by adit 310 ft. long and shaft 200 ft. deep; 2 levels with 600 ft. of drifts, raises, and stope 80 by 3 by 120 ft. Ore treated in 5-stamp mill driven by steam power. Idle. (Miller 90:715; Crawford 96:465; Brown 16: 900; Logan 26:33.)

GOLD, LODE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	United Trinity				See Bonanza King.
	Van Ness				See Five Pines.
90	Venecia (Eastman Consolidated)	Sec. 3, T 33 N, R 8 W, MDB&M	Paulsen Bros., Inc., Lewiston	Quartz veins varying in width from a few inches to 5 ft. Some high-grade ore mined from veins 3 to 4 in. wide striking N 30° E with steep dips to NW and SE; gold accompanied by pyrite, arsenopyrite, and galena.	4½ mi. NE of Lewiston. Developed by adits. Ore treated in 5-stamp mill driven by water power. Idle. (Brown 16:900; Tucker 22:207, 497; Averill 33:56; 41:64-65.)
91	Vermont (Willey)	Sec. 13, T 33 N, R 8 W, MDB&M	A. J. Schweppe, 657-671 Coleman Bldg., Seatlle, Wash.	Quartz veins associated with dikes of diorite porphyry intrusive into Bragdon slate; mixtures of crushed quartz and slate gave good assays in gold.	4½ mi. E of Lewiston. Developed by numerous adits. (Averill 41:65.)
	Wagner				See Modoc Gold Mines, Inc.
	Wagner Mining and Milling Company	Sec. 33, T 33 N, R 9 W, MDB&M	Wagner Mining and Milling Company, c/o Pearl E. O'Brien, Oakland		3 mi. NE of Douglas City. 9 claims held by assessment work. No published report.
	Watson	Sec. 25, T 28 N, R 11 W, MDB&M	Undetermined		Claim 10 mi. S of Wildwood. No published description. Idle. (Averill 41:89.)
	West Point				See Little Buster.
	White Cloud	Sec. 3 or 5, T 34 N, R 8 W, MDB&M	Undetermined	Pocket worth $2,500 was mined from small vein in quartz-porphyry in 1912.	About 1 mi. E. of Minersville. Property developed by adit 200 ft. long and 250 ft. of drifts. Idle. (Brown 16:900.)
	Willey				See Vermont.
92	Woodrat (Gold Hill)	Sec. 19, T 34 N, R 8 W, MDB&M	Joseph Cerny and S. M. Williams, Box 118, Shasta		7 claims about 3½ mi. SW of Minersville. Assessment work only. No published report.
	Yellow Aster	Sec. 21, 29, T 35 N, R 11 W, MDB&M	Undetermined	Free-milling gold in fissure vein.	8 mi. N of Helena. Developed by adits 135 and 170 ft. long, and shaft 45 ft. deep, all in ore. (Brown 16:900-901.)
	Yellow Pine	Sec. 8, T 38 N, R 5 W, MDB&M	Helen Brown, Pasadena		Patented claim about 1 mi. N of Whalan Station. No published report. Idle.
93	Yellowstone	Sec. 29, 32, T 35 N, R 11 W, MDB&M	Dean and Dorothy Love, et al., 620 E. Mines Ave., Stockton	Vein 3 ft. wide strikes N 58° W, and dips 31° N.	About 6 mi. N of Helena. Extensively developed by adits, drifts, raises, and stopes. Ore treated in 10-stamp mill run by water wheel; production record of $160,000 to $190,000. (Miller 90:711; Dunn 92:482; Crawford 94:314; 96:466; Logan 26:27.) See Enterprise 1 and 2 also.
94	Yellow Surprise	Sec. 10, T 33 N, R 11 W, MDB&M	Undetermined	Quartz lens 3 ft. wide.	2 mi. W of Junction City. Quartz exposed in adit 25 ft. long; picked sample said to have assayed $28.00 in gold, $1.50 in silver (gold at $20.67). Idle. (Averill 41:67.)

GOLD, PLACER

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Abrams				See Mires and Underseth, herein, and Nash Placer.
	Ackerman				See Canyon Placers, Inc., herein.
	Adams and Manyana (Frenchman)	Sec. 4, T 37 N, R 9 W, MDB&M; Sec. 34, 35, T 38 N, R 9 W, MDB&M	Undetermined		Bed of Union Creek about 11 mi. NW of Carrville was mined 1870 to 1890. (Miller 90:697.)
95	Albia	Sec. 8, 9, T 7 N, R 8 E, HB&M	Victor E. Bradley, Oakland		Placer claim on East Fork of New River about 7 mi. NE of Denny; worked on small scale.
	Albiez				See Cinco Mineros Company.
	Alcan Mining Company				See Mires and Underseath, herein.
	Alder Gulch	Sec. 15, 22, T 33 N, R 10 W, MDB&M	Undetermined		Old placer location about 4 mi. N of Douglas City. No published reports. Idle.
	Allen				See Lucky Strike and Effie Belle.
	Alta Bert Dredging Company				See Estabrook Gold Dredging Company.
	Alta Bird Mining and Dredging Company				See Estabrook Gold Dredging Company.
	American-Italian				See Pickett and Stofer.
	Andy	Sec. 3, 9, 10, T 34 N, R 11 W, MDB&M	Bert Higgins, Helena (1941)		About 4 mi. N of Helena. No published description. Idle. (Averill 41:74.)
	Arbuckle				See Brown's Creek.
96	Atomic Mining Company	Sec. 1, T 32 N, R 10 W, MDB&M	Francis Smith, et al., Weaverville	River gravel.	Small suction dredge in June 1946; capacity estimated at 15 cubic yards per hour. (Herein.)
	Baker Bar	Sec. 12, T 33 N, R 11 W, MDB&M	Gertrude M. Hoskinson, Box 27, Junction City		Patented claim near Junction City. No published report. Idle.
	Bald Point (Paulsen and Hughes)	Sec. 32, 33, 34, T 33 N, R 9 W, MDB&M	Undetermined	Gravel bank 20 to 30 ft. high above serpentine and slate bedrock; some cement gravel.	Hydraulic mine along the Trinity River about 3 mi. E of Douglas City. Water brought from Grass Valley Creek through ditch 12 mi. long; some rich diggings prior to 1914. (Crawford 94: 313; 96:459; Brown 16:901.)
	Barstow and Company				See Nash Placer.
	Barthel Jacobs				See Goldfield Consolidated, herein.
97	Bates and Van Matre	Sec. 33, T 34 N, R 8 W, MDB&M	J. W. Martin, Lewiston	Gravel bank 20 ft. high above diorite bedrock.	Old hydraulic mine in Eastman Gulch about 4 mi. N of Lewiston. Water brought from Mooney Gulch through 2 mi. of ditch. See Eastman Placer, herein, and Martin and Setzer also. (Crawford 96:438; Brown 16:901.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
98	Batham Dredge (Weaver Dredging Company)	Sec. 6, T 33 N, R 9 W, MDB&M Sec. 1, T 32 N, R 10 W, MDB&M. Sec. 33, T 35 N, R 8 W, MDB&M	O. R. Batham Dredging Company, Box 325, Concord, California	River gravel over soft shale bedrock.	Dragline dredge and washing plant operated 1941-42. (Averill 41:66; 46:313; herein.)
	Battle Creek 2 to 13				See Heninger.
	Battle Peak	Sec. (?), T 37 N, R 7 W, MDB&M	Undetermined		Placer claim in Copper Creek district, about 40 mi. W of Delta; active 1917. (Laizure 20:543.)
	Bazet				See Beaudry.
	BB-1	Sec. 13, T 34 N, R 11 W, MDB&M	Charles M. Bullard, Junction City		Small-scale placer operation 5 mi. N of Junction City; worked intermittently.
99	Beaudry (Bazet, Greenhorn Gulch)	Sec. 28, 29, 32, 33, T 35 N, R 8 W, MDB&M	Estate of Angele Bazet, c/o Roland Charplot, Administrator, San Francisco		Hydraulic mine near Minersville; was shut down 1910 by litigation. Water brought from East Fork of Stuart Fork through 5 mi. of ditch. Good producer at one time. (Brown 16:901; Logan 26:34-35; Averill 41:25.)
	Bed Rock Tunnel Placer	Sec. 12, T 34 N, R 11 W, MDB&M	L. V. & A. Stowe, Junction City		Patented claim about 6 mi. N of Junction City. No published report. Idle.
	Bell Gulch	Sec. 29, T 33 N, R 10 W, MDB&M	W. M. Gilzean, Junction City		3 mi. SE of Junction City. No published description. (Averill 41:74.)
	Benjamin and Keno	Sec. 18, T 33 N, R 10 W, MDB&M. Sec. 12, 13, T 33 N, R 11 W, MDB&M	G. M. Hoskins, Box 27, Junction City		Patented claim 2 mi. S of Junction City. No published report.
100	Bennett Hydraulic Mine	Sec. 6, T 33 N, R 12 W, MDB&M	V. B. Bennett, 211 N. 16th St., Sacramento; and Curt Bennett, Big Bar	Pebbles and boulders of diorite, gabbro, quartzite, and porphyry, overlying a bedrock composed of slate, sandstone, and quartzite.	Owner stated 17,000 cubic yards of gravel averaged 60 cents per cubic yard. (Herein.)
	Bennett Dredge				Indian Creek Dredge, herein.
101	Bergin Placer (Boston No. 5, Compagnie Francise, Graf, Hays, Joe Sturdivant, Keno, Laws)	Sec. 18, T 33 N, R 10 W, MDB&M. Sec. 12, 13, 24, T 33 N, R 11 W, MDB&M	G. H. Bergin, et al., Weaverville	Gravel bank overlies hornblende schist.	Hydraulic mine, includes 600 acres of patented land. Mined with two giants in 1946. (Miller 90:704; Crawford 94:308-309; 96:443; Averill 41:25-26; herein.)
	Betty's Placer	Sec. 7, T 34 N, R 8 W, MDB&M	Betty and Teddy Satori, Minersville		About 2 mi. SW of Minersville. A small production reported from ground-sluicing in 1953.
102	BHK Dredge	Sec. 20, T 33 N, R 9 W, MDB&M. various T 32 N, R 10 W, MDB&M	E. D. Bishop and Louis Krantz, Orland	River gravel.	Dragline and washing plant operated at various localities 1940-41. (Averill 46:305; herein.)
	Big Bar	Sec. 6, T 33 N, R 12 W, MDB&M	B. L. Cox, Box 171, Anderson		Placer claim about 1 mi. W of Big Bar. A small production reported by E. J. Hostetter of Helena in 1952. No published report.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Big Bend (Phillips)	Sec. 17, T 33 N, R 8 W, MDB&M	Estate of J. W. Phillips, R. M. Phillips, Administrator, Manteca	Thickness of gravel averaged 20 ft.	Hydraulic mine on high bench above Trinity River near Lewiston. Water brought from Deadwood Creek through ditches 3 and 5 mi. long giving 250-ft. head; bedrock tunnel 900 ft. long gave a 100-ft. dump to Trinity River. Gold caught in flume 4 ft. wide paved with rock. Water was sufficient to work 6 weeks per year. An attempt to supply giants with water pumped from Trinity River was abandoned. (Crawford 96:459; Averill 33:58-59.)
	Big Creek	Sec. 7, 8, T 31 N, R 11 W, MDB&M	Undetermined	Gravel bank 40 ft. high above slate bedrock.	Hydraulic mine 1 mi. E of Hayfork. Water brought from Big Creek and Hayfork River through ditches 2 mi. long to supply 2 giants; worked on small scale due to lack of water. See Cinco Mineros Company also. (Brown 16:901-902.)
	Big Creek Placer	Sec. 20, T 1 N, R 7 E, HB&M	D. A. Shephard, 1506 Maple Court, Alhambra		Small-scale placer operation 7 mi. N of Forest Glen. No published report.
	Big Dutchman	Sec. 1, T 34 N, R 9 W, MDB&M	Undetermined		About 3 mi. W of Minersville. No published description. (Averill 41:74.)
	Big East Fork	Sec. 30, 31, T 35 N, R 10 W, MDB&M	Canyon Creek Development Company, Oakland	20-ft. bank of gravel.	Patented claims S of Dedrick. Worked with 3 giants; water brought from Canyon Creek through 2 mi. of ditch and 1800 ft. of pipe. Good producer at one time. See Canyon Placers also. (Brown 16:902.)
	Bigelow Ranch	Sec. 31, T 32 N, R 9 W, MDB&M	Undetermined		Gravel on Brown's Creek about 5 mi. S of Douglas City prospected by several shafts. No production recorded. (Averill 33:58.)
	Big Flat	Sec. 5, T 33 N, R 12 W, MDB&M	E. J. Hostetter, Helena		Small scale ground sluicing operation at Big Bar.
	Big Rock	Sec. 17, T 38 N, R 9 W, MDB&M	Chris Halverson		Placer claim 15 mi. NW of Carrville on South Fork of Coffee Creek, located in July 1947; no production recorded.
	Bloss and McClary	Sec. 5, T 36 N, R 7 W, MDB&M	Undetermined	Bank 800 ft. long and 80 ft. high with portions of deeper gravel cemented.	Hydraulic mine at Trinity Center. Water to supply 5 in. giant flowed through ditch 7 mi. long; 900-ft. head available, 300-ft. head used; 82 sluice boxes 6 ft. long fitted with block riffles. (Miller 90:699-700; Crawford 94:307; 96:439.)
	Blue Gravel	Sec. 1, T 31 N, R 11 W, MDB&M	E. J. Gunther, 64-3rd Street, Woodland	Gravel 20-ft. high above slate bedrock.	Hydraulic mine 6 mi. E of Hayfork; water was taken from Hayfork River through 1 mi. of ditch. Was small producer. (Brown 16:902.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Blue Jib	Sec. 13, T 37 N, R 8 W, MDB&M	Undetermined	Gravel bank 20 ft. high above slate bedrock.	Gravel on Coffee Creek 2 mi. NW of Carrville worked by ground sluicing during winter months. Water brought from Coffee Creek through ditch 1½ mi. long. (Brown 16:916.)
	Blue Lead	Sec. 6, T 33 N, R 9 W, MDB&M. Sec. 31, T 34 N, R 9 W, MDB&M. Sec. 36, T 34 N, R 10 W, MDB&M	Undetermined	Gravel bank 60 ft. high above slate bedrock.	Hydraulic mine 1½ to 3 mi. N of Weaverville. Water brought from Garden Gulch through ditch 1½ mi. long. Good producer. (Brown 16:902.)
	Blythe (Trinity Gold Placer Mining Syndicate, Ltd.)	Sec. 19, 20, T 37 N, R 7 W, MDB&M	Trinity Gold Placer Mining Syndicate, c/o R. C. Glassburn, Trinity Center		Hydraulic mine located on an upper bench on W side of Trinity River 1 mi. S of Carrville. (Miller 90:698, 717.)
	Bonton	Sec. 26, T 34 N, R 9 W, MDB&M	Undetermined		5 mi. NW of Lewiston. No published description. Idle. (Averill 41:75.)
	Bonus				See Up Grade.
	Boston No. 5				See Bergin Placer, herein.
	Bourier	Sec. 4, T 34 N, R 8 W, MDB&M. Sec. 28, 33, T 35 N, R 8 W, MDB&M	Undetermined		A group of placer claims N of Minersville. No published report. Idle.
	Bower & Matlock (Lucky Mack)	Sec. 36, T 31 N, R 11 W, MDB&M	E. J. Gunther, 64-3rd St., Woodland	Gravel bank 25 ft. high above schist bedrock.	Hydraulic mine 7 mi. SE of Hayfork. Water brought from East Fork of Hayfork Creek through 1 mi. of ditch; 2 giants operated during short season due to lack of water. Some good ground; small production. See also Harold's Club Dredge, herein. (Brown 16:902.)
	Boyd	Sec. 28, T 8 N, R 8 E, HB&M	Undetermined	Gravel bank 10 ft. high above a schist bedrock; coarse yellow gold.	9 mi. NE of Denny. Ground-sluiced with water brought from Emigrant Creek through 1 mi. of ditch. Small producer. (Crawford 96:440; Brown 16:916.)
	Brennan Dredge	Sec. 19, 20, T 33 N, R 9 W, MDB&M	Undetermined		On Browns Creek 2 mi. SE of Weaverville. Dragline dredge using ¾ cu. yd. bucket operated July to December, 1941. (Averill 46:305.)
	Brizzard Ranch				See Hawkins Bar.
	Brown's Bar (Hackerman Bar)	Sec. (?), T 7 N, R 7 E, HB&M	Undetermined	Gravel bank 15 ft. high; coarse gold.	Hydraulic mine operated in New River district near Denny a few days each winter; 1 giant operated on water brought from Longtail Creek. (Brown 16: 903.)
103	Brown's Creek (Arbuckle)	Sec. 9, 16, T 33 N, R 9 W, MDB&M	C. O. Arbuckle, Weaverville	Gravel bank with cobbles of schist and quartz diorite above a bedrock of porphyry. Fine gold distributed through the red sandy soil in the bank.	Hydraulic mine; usual season extends from January to April. (Herein.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Brush Creek				See Yuba Consolidated Gold Fields.
	Buckeye Mining Company Placer (Humboldt, Majestic, Pacific)	Sec. 1, T 34 N, R 8 W, MDB&M. Sec. 1, 2, 10, 12, 14, 15, 33, T 34 N, R 9 W, MDB&M	Humboldt Placer Mining Co. and Del de Rosier, 2226 - 28th St., Sacramento	Gravel 20 to 60 ft. deep above slate bedrock, on terrace ¾ mi. long.	About 6700 acres between Rush Creek and Stuarts Fork 2 to 5 mi. W of Minersville. Terrace developed for width of 300 ft. Water brought from Tannery Gulch and Slate Creek under head of 80 ft. to operate giants with 4- and 3-in. nozzles. Water season was short. (Brown 16:912; Logan 26:37-38; Averill 33:67-68; 41:297.)
104	Buckeye Placer (Ferl Dredge, St. Marys and Live Oak)	Sec. 23, 24, T 37 N, R 8 W, MDB&M. Sec. 19, T 37 N, R 7 W, MDB&M	Claire Hill of Redding and Dr. Numa P. Dunne of Oakland	Gravel above bedrock of decomposed granodiorite.	Dragline and washing plant; 30 ounces of gold and 2 ounces of silver recovered from 2600 cubic yards of gravel. Operated 1948-54. (Herein.)
105	Burger	Sec. 12, 13, T 34 N, R 11 W, MDB&M	Undetermined	30 ft. gravel bank on slate bedrock.	Hydraulic mine 6 mi. N of Junction City. Water brought from Gwin Gulch through 3 mi. of ditch to operate giant. Good producer. (Brown 16: 903.)
	Butts				See Interstate.
	Buzzy	Sec. 35 (?), T 31 N, R 11 W, MDB&M	Mrs. Pearl Wood, Hayfork		7 claims about 12 mi. SE of Hayfork; worked intermittently.
	California				See Yuba Consolidated Gold Fields.
106	California-Keystone	Sec. 6, T 35 N, R 11 W, MDB&M. Sec. 31, T 36 N, R 11 W, MDB&M	California-Keystone Placer Mining Company, Inc., A. Frank Trueby, Pres., 1240-23rd Ave., Oakland (1946)	Gravel above soft serpentine bedrock.	Hydraulic mine; short-lived. (Herein.)
	Camzo Placer	Sec. 26 (?), T 6 N, R 5 E, HB&M	Undetermined		Claim on E side of South Fork of Trinity River 2½ mi. from Salyer. Worked with small centrifugal pump and sluice boxes. (Logan 26:35.)
	Canada Hill Placer	Sec. 4, T 34 N, R 8 W, MDB&M	Undetermined		Near Minersville. No published description. Idle. (Averill 41: 76.)
107	Canyon Placers, Inc. (Ackerman, Comstock, Dannenbrink,. HenryJenkins, Hikes Hill, Oswald, Pittsburg, Prussian and Heinburger, Red Flat, Rough and Ready, Sidney Smith, Wilt)	Sec. 29, 30, 31, T 35 N, R 10 W, MDB&M. Sec. 1, 12, 13, T 34 N, R 11 W, MDB&M. Sec. 6, 7, T 34 N, R 10 W, MDB&M	Canyon Creek Development Company, c/o R. A. Beland, 3532 Ardley Ave., Oakland	Gravel bank above black schist bedrock. Coarse gold nuggets.	Hydraulic mine. Operated 1940-50 by various groups. (Averill 41:29-30; herein.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Carlson and Sandburg Dredge	Sec. 5, T 32 N, R 9 W, MDB&M	Undetermined		Dragline dredge at Indian Creek near Douglas City late in 1937, since dismantled. See also Indian Creek Dredge, herein. (Averill 38:114.)
	Carr, Joseph	Sec. 1, T 32 N, R 10 W, MDB&M	Undetermined		Claim near Douglas City. No published report. Idle.
	Carr Placer	Sec. 32, T 33 N, R 10 W, MDB&M	Undetermined		About 4 mi. S of Douglas City. No published report. Idle.
108	Carrville Gold Company Dredge	Sec. 8, 17, 20, 29, T 37 N, R 7 W, MDB&M	Thurman and Wright, 625 Market St., San Francisco	River gravel.	Bucketline dredge on Trinity River. Operated intermittently 1939-47. See Estabrook Gold Dredging Company also. (Averill 41:30-31; herein.)
	Casey				See Indian Creek and Panwauket Group.
	Cement & Mule Creek (Mule Creek Placer)	Sec. 30, T 35 N, R 8 W, MDB&M	Stanley Teitzel, et al., Lewiston	30-ft. gravel bank on slate bedrock.	Hydraulic mine 1½ mi. NW of Minersville. Water brought from Mule Creek through 1 mi. of ditch; worked with two giants. Idle since 1911. (Brown 16:903.)
	Center Placer				See Yuba Consolidated Gold Fields.
	Chamberlain & Red Hill Placer	Sec. 13, T 33 N, R 9 W, MDB&M; Sec. 18, T 33 N, R 8 W, MDB&M	Undetermined	Old river channel 300 ft. wide and ½ mi. long; gravel 30 ft. deep.	Hydraulic mine at big bend of the Trinity River about 1 mi. W of Lewiston. First worked 1859. Water brought from Brush Creek through 7 mi. of ditch to a No. 4 monitor; 3 men working 10 hours daily for season of 7 months produced average of $7,000 in gold each year for many years. (Miller 90:708-709.)
	Champion	Sec. (?), T 34 N, R 9 W, MDB&M	Undetermined		Property in Weaverville district equipped with pipe and giant; water brought from East Weaver Creek in 1917. (Laizure 20: 543.)
109	Chapman & Fisher (Gribble, Raab)	Sec. 19, 20, 29, 30, T 33 N, R 10 W, MDB&M	Earl P. Johnson and Frank L. Chapman, Junction City	Bank consisting of red soil overlying bed of gravel and bedrock of soft shale. Fine gold with some platinum.	Hydraulic mine. Claims located 1871. (Miller 90:708; Crawford 96:442; Brown 16:903; Logan 18:84; 26:64; herein.)
	China Bar	Sec. 17, T 33 N, R 8 W, MDB&M	Robert B. McMullen, Oakland (½), Edward M. and Karen K. Sorenson, Berkeley (½)		Placer claim near Lewiston. No published report.
	China Creek				See Larsen.
110	Cinco Mineros Company (Albiez, Crews, Parmenter, Ross and Trimble)	Sec. 7, 8, T 31 N, R 11 W, MDB&M	Undetermined	Gravel 10 ft. deep with some large boulders; volcanic tuff bedrock.	Dragline dredge on Hayfork Creek about 1 mi. E of Hayfork, operated from 1940 to 1942. Bodinson washing plant; Lima dragline with 1½ cu. yd. buckets. Equipment has been removed. (Averill 41:32; 46: 305.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Clarissa V Mining Company	Sec. 3, T 31 N, R 9 W, MDB&M	Clarissa V. Mining, c/o Lloyd F. Lucks, 1343 Oak St., San Francisco 17		About 7 mi. SE of Junction City. No published report. Idle.
	Clary and McCarthy				See La Grange, herein.
	Clayton	Sec. 7, 8, T 33 N, R 8 W, MDB&M	Trinity Dredging Co., c/o Mary L. Smith, Lewiston		About 1½ mi. N of Lewiston. No published description. Idle. See Trinity Dredge. (Averill 41:76.)
111	Clear Creek Gold Dredging Company (Enterprise Engineering Company)	Sec. 18, T 32 N, R 9 W, MDB&M	W. F. Eubank and Walter Sivochenko, French Gulch (1947)	Gravel over soft shale bedrock.	Dragline dredge. Produced 95 ounces of gold and 9 ounces of silver from 56,000 cubic yards of gravel. (Herein.)
	Clement	Sec. 29, T 32 N, R 9 W, MDB&M	Undetermined		4 mi. SE of Douglas City. No published description. (Averill 41:76.)
112	Clipper	Sec. 13, 24, T 34 N, R 11 W, MDB&M	Erville A. Wright, Weaverville; leased to C. N. Bullard, Junction City (1953)		On Canyon Creek 4 mi. N of Junction City. A small production was made by ground sluicing in 1953.
	Closer	Sec. 12, T 37 N, R 8 W, MDB&M	Undetermined	Gravel bank 25 ft. high above slate bedrock.	Hydraulic mine 1½ mi. NW of Carrville. Water brought from Coffee Creek through ½ mi. of flume. Produced about $200,000. (Brown 16:903.)
	Coffee Creek Dredge				See Mires and Underseath, herein.
	Colby & McIlwaine (McIlwaine)	Sec. 16, 21, 28, T 38 N, R 9 W, MDB&M	Undetermined		Old placer claim 12 mi. NW of Carrville. No published report. Idle.
	Compagnie Francise				See Bergin Placer, herein.
	Comstock	Sec. 32, T 36 N, R 7 W, MDB&M	Undetermined		Placer claim on Trinity River 5 mi. S of Trinity Center. No published description. Idle. (Averill 41:76).
	Comstock				See Canyon Placers, Inc., herein.
	Consolidated Placer	Sec. 26, T 32 N, R 9 W, MDB&M	Undetermined		6 mi. SE of Douglas City. No published description. Idle. (Averill 41:76.)
	Consolidated Buckhorn	Sec. 4, T 6 N, R 6 E, HB&M	Per O. and Anne C. Berg, Burnt Ranch		Association placer of 80 acres about 4 mi. NE of Salyer. No published report. Idle.
113	Coro (Gold Run, Hornet, Shoestring)	Sec. 14, T 36 N, R 8 W, MDB&M	Coro Gold Mining Corp. c/o Carl Stehle, 39 Broadway, New York, N. Y.	Gravel 60 to 116 ft. deep; difficult to work because of hard clay.	On ridge between 2 forks of Swift Creek about 5 mi. SW of Trinity Center, about 200 ft. above the stream. Worked with 2 giants 1939. Water brought from Swift Creek through 3½ mi. of ditch and 6,300 ft. of 32-inch pipe. (Averill 41:32.)
	Corono de Oro				See Corono.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
114	Corono (Corono de Oro, Oro Corono, Upton)	Sec. 17, 18, T 6 N, R 6 E, HB&M	Undetermined	Terrace gravel; said to yield 28 cents gold and 4.6 cents platinum per yd. with much being lost.	About 800 ft. above N side of Trinity River about 4 mi. E of Salyer. Small yardage mined with water brought from Cedar and Hawkins Bar Creeks through 10 mi. of ditches and tunnel 1100 ft. long. (Brown 16:904; Logan 18:89-90; 26:45, 65.)
115	Costa Ranch	Sec. 9, 16, 17, 21, T 34 N, R 9 W, MDB&M	Frank and George Costa, et al., Lewiston	Gravel overlying layer of hard cemented gravel.	Hydraulic mine; intermittent operation. (Logan 26:35; Averill 41:32-33; herein.)
	Coumbs, Wallace, and Ingram	Sec. 31, T 32 N, R 9 W, MDB&M	Undetermined		Placer claim 4½ mi. S of Douglas City. No published description. Idle. (Averill 41:77.)
	Coyle				See Yuba Consolidated Gold Fields.
	Crews				See Cinco Mineros Company.
	Crofton	Sec. 32, T 34 N, R 9 W, MDB&M	J. H. & C. I. McNight (Address unknown)		Placer claim 2 mi. NE of Weaverville. No published description. (Averill 41:77.)
	Curly	Sec. 1, T 31 N, R 11 W, MDB&M	Undetermined	Gravel bank 25 ft. high above slate bedrock; some coarse gold.	Small hydraulic mine 5½ mi. NE of Hayfork. Water brought from Hayfork River through Woodbury ditch. Idle. (Brown 16: 904.)
	Daisy				See Hilliard and Daisy.
	Dannenbrink				See Canyon Placers, Inc., herein.
	Democrat Gulch				See Lucky Strike and Effie Belle.
116	Diener (Minersville Hydraulic Gold Mining Company)	Sec. 20, T 35 N, R 8 W, MDB&M	Estate of Angele Bazet, c/o Roland Charplot, Administrator, San Francisco	Coarse gold in shallow gravel that included many boulders.	Old hydraulic mine 2 mi. N of Minersville. Operated by Minersville Hydraulic Gold Mining Company about 1895; water brought from East Fork of Stuart Fork through 4 mi. of ditch carrying 5,000 miners inches. Largest giants had 8-in. nozzles, water had 450-ft. head. Gold captured in 2 strings of sluice boxes each with 12 boxes 8 ft. wide on 8-in. grade. (Crawford 96:456.)
117	Dobbins Gulch Dredging Company (Gerlinger dredge)	Sec. 19, 30, T 33 N, R 9 W, MDB&M	E. E. Gerlinger, Redding	Gravel above a schist and serpentine bedrock. Black sand concentrate made and shipped.	Dragline and washing plant; 1941-43. (Herein.)
	Dock & Kise	Sec. 17, T 33 N, R 8 W, MDB&M	Undetermined		Placer claim about 1 mi. N of Lewiston. No published description. Idle. (Averill 41:77.)
	Dolly Varden	Sec. 9, 16, T 33 N, R 10 W, MDB&M	Undetermined	Gravel 12 ft. high above shale bedrock;some good ground.	Placer claim about 2½ mi. SE of Douglas City. One giant operated with water from Ox Canyon and Lime Kiln Gulch brought through ditch 1 mi. long; operated in winter months. (Brown 16:904.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Douglas City Placer	Sec. 1, 12, T 32 N, R 10 W, MDB&M Sec. 6, 7, T 32 N, R 9 W, MDB&M	Undetermined		Gravel along S bank of Trinity River E of Douglas City between Indian and Redding Creek worked by ground sluicing, rockers, and small-scale hydraulic methods; development adits and shafts indicated large deposit would average 11 cents in gold per cubic yard. (Averill 33:61.)
	Drinkwater	Sec. 13, 24, T 31 N, R 12 W, MDB&M	Undetermined	Gravel 20 ft. high above schist bedrock.	Hydraulic mine 2 mi. S of Hayfork. Water brought from Kingsbury Gulch through 2 ditches 2 miles long; 2 giants operated during winter months. Small producer. (Brown 16:904.)
	Driver	Sec. 15, T 33 N, R 10 W, MDB&M	Undetermined	Gravel bank 40 ft. high above granodiorite bedrock.	Hydraulic mine 3 mi. SW of Weaverville. Water brought from Dutton's Creek through ditch 1 mi. long. Small producer. (Brown 16:904-905.)
	Dry Placer	Sec. 25, T 32 N, R 9 W, MDB&M	Undetermined		Placer claim about 6 mi. SE of Douglas City. No published report. Idle.
	Dump				See Goldfield Consolidated, herein.
	East Fork	Sec. 1, 2, 11, 12, T 36 N, R 7 W, MDB&M	Undetermined	Gravel bank 50 to 60 ft. high above slate bedrock; rich locally.	Hydraulic mine 3½ mi. E of Trinity Center. Water brought from East Fork of Trinity River through 3 mi. of ditch; 3 giants were operated. (Brown 16:905.)
118	Eastman (Jim Sing)	Sec. 33, 34, T 34 N, R 8 W, MDB&M	J. W. Martin, Lewiston	Gravel above greenstone bedrock.	Hydraulic mine; pre-1914 to 1942. See Bates and Van Mater, Martin and Setzer also. (Brown 16:905; Haley 23:95; Crawford 96:451; herein.)
	Egan's Fork	Sec. 1, 12, T 33 N, R 11 W, MDB&M	Undetermined		Placer location about ½ mi. N of Junction City. No published report. See also Junction City dredge, herein.
	Ehrman	Sec. 18, T 33 N, R 8 W, MDB&M	Undetermined		Placer claim about 1 mi. NW of Lewiston. No published report. Idle.
	El Dorado Lion	Sec. 11, 12, 13, T 33 N, R 11 W, MDB&M	Gertrude M. Hoskinson, Box 27, Junction City		Patented claim W of Junction City. Worked with the Bergin Placer. See also Junction City dredge, herein.
	Elevator	Sec. 31, 32, T 40 N, R 6 W, MDB&M	Undetermined		Placer claim 12 mi. NE of Carrville. No published description. Idle. (Averill 41:77.)
	Elevator	Sec. 5, T 36 N, R 7 W, MDB&M	Undetermined		Placer claim about ½ mi. SW of Trinity Center. Idle. (Miller 90:717.)
	Ellston	Sec. 30, T 37 N, R 12 W, MDB&M	Undetermined	Gravel 20 to 60 ft. deep; some coarse gold.	Drift mine on Emigrant Creek 2 mi. S of Old Denny. Tunnel 50 ft. long. Idle. (Brown 16: 917.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
119	English Tom (Trinity River Mining Company)	Sec. 5, 8, T 33 N, R 8 W, MDB&M	Trinity River Mining Company, c/o A. W. Reynolds, 913 Central Ave., Alameda	Gravel 30 to 40 ft. high above diorite bedrock; rich gravel mined from blue channel in early days.	Old hydraulic mine 2 mi. N of Lewiston. The water brought from the Trinity River through a tunnel 12 ft. wide, 10 ft. high and 1400 ft. long had a head of 25 ft. and was used to drive a turbine and a centrifugal pump. Idle for many years. (Miller 90:709; Crawford 94:314; 96:465; Brown 16:915-916; Averill 33:72.)
	Enright	Sec. 19, 20, T 37 N, R 7 W, MDB&M	Unknown		Patented claim about ½ mi. N of Stringtown. No published report. Idle. See also Buckeye Placer, herein.
	Enterprise Engineering Company				See Clear Creek Gold Dredging Company, herein.
	Estabrook Gold Dredging Company (Alta Bert Dredging Company, Alta Bird Mining and Dredging Company, McDonald, Hydraulic Gold Company)	Sec. 4, 5, 7, 8, 9, T 36 N, R 7 W, MDB&M. Sec. 29, 33, T 37 N, R 7 W, MDB&M	Yuba Consolidated Industries, Inc., 351 California St., San Francisco	Gravel 25 to 50 ft. deep above serpentine, slate, and hard granodiorite bedrock; some large boulders and some cement gravel.	Bucketline dredge started operating on Trinity River N of Trinity Center in 1919. Succeeded by Shasta Hydraulic Gold Company in 1938 and by Carrville Gold Company dredge in 1939. (Aubury 08: 104; Brown 16:918-919; Tucker 22:258, 297, 601, 735-736; Averill 41:30-31; 57.)
	Evans and Bartlett				See Goldfield Consolidated, herein.
	Evans Bar	Sec. 32, T 33 N, R 10 W, MDB&M	Undetermined	Gravel 30 ft. high above slate bedrock.	Hydraulic mine 4½ mi. S of Junction City; 70 acres patented land. Worked by 2 giants. (Miller 90:707; Crawford 96:446; Brown 16:905.)
	Evening Star				See North Star.
120	Fairview Placers Diedge (Harold Placer, Fairview Placers)	Sec. 3, 4, 9, 10, 24, 25, 26, T 34 N, R 8 W, MDB&M. Sec. 34, 35, T 35 N, R 8 W, MDB&M. Sec. 18, T 35 N, R 7 W, MDB&M	Fairview Placers, Lewiston	Old hydraulic tailings overlying cement gravel and soft shale bedrock.	Bucketline dredge. Operated 1949-57. Shut down by Trinity River project. (Herein.)
	Fairview Placers				See Fairview Placers Dredge, herein.
	Ferl Dredge				See Buckeye Placer, herein.
	Five Cent Gulch Placer	Sec. 6, 7, T 33 N, R 9 W, MDB&M. Sec. 31, T 34 N, R 9 W, MDB&M	B. Stookey, Weaverville		Patented claim 1 mi. N of Weaverville. No published report. Idle. See also Batham Dredge, herein.
	Fortune Teller				See Tinsley and Treloar, herein.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Fowler	Sec. 2 (?), T 37 N, R 8 W, MDB&M	Undetermined		Drift mine on Coffee Creek 2¾ mi. upstream from Coffee Creek P.O. Developed by flat incline 150 ft. long giving depth of 11 ft. below present stream; 100 ft. of drifting. A little gold produced. Idle. (Logan 26:35.)
	Freethy	Sec. 28, 29, T 36 N, R 7 W, MDB&M	Undetermined		Placer claim 4 mi. S of Trinity Center. No published description. Idle. (Averill 41:78.)
121	French Bar	Sec. 29, 30, T 5 N, R 8 E, HB&M	Estate of B. T. Wilke, Subway Terminal Building, Los Angeles	River bed gravel with many boulders.	1 mi. E of Del Loma. Trinity River diverted through tunnel 500 ft. long to drain 1800 ft. of river bed. Gravel worked with power shovel to depth of 25 ft. without exposing bedrock; gravel washed in sluice 120 ft. long and 22 in. wide. Cost said to have been 29 cents per cu. yd. Only part of deposit worked. (Averill 41: 34-35.) See also Oro Del Lomas Mining Company, herein.
	Frenchman				See Adams and Manyona.
	Gardella				See Gold Bar Dredge.
	Garden Gulch	Sec. 1, 12, T 33 N, R 10 W, MDB&M. Sec. 36, T 34 N, R 10 W, MDB&M	United States Government		Hydraulic mine 1 mi. N of Weaverville, including 107 acres on Weaver Creek. 2 giants operated on water taken from Weaver Creek through ditch 2 mi. long. Some good ground. (Brown 16:905.)
	Galvin Gold Dredging Company	Sec. 7 (?), T 33 N, R 9 W, MDB&M	Undetermined		Operated one of first dredges in Trinity County. (Aubury 08: 104-105.)
	Gem (Scharber Slough, Teal and Perigot)	Sec. 13, T 6 N, R 5 E, HB&M	Undetermined	Gravel 30 ft. above slate bedrock; black sand carried a little platinum.	Included 400 acres patented land on Trinity River near China Flat, about 1 mi. E of Salyer. 3 giants operated on water brought from Scharber and Quimby Creeks through 4000 ft. of pipe from December to June. Idle. (Brown 16:905; Logan 18:89; 26:49, 65.)
	General Utility Dredge	Sec. (?), T 33 N, R 9 W, MDB&M	Undetermined		Operated dragline dredge in Weaverville district 1938. No published report.
	Geneva-Trinity	Sec. 6, T 33 N, R 12 W, MDB&M	V. B. Bennett, 211 N. 16th St., Sacramento and Curt Bennett, Big Bar		Terrace gravel on Trinity River near Big Bar excavated by power shovel, washed in sluice box 1935. (Averill 41:35.) See also Bennett Hydraulic mine, herein.
	Gerlinger Dredge				See Dobbin Gulch Mining Company, herein.
	Gibbons Company				See Nash Placer.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Gilzean Bros.				See Goldfield Consolidated, herein.
	Gilzean	Sec. 18, T 33 N, R 10 W, MDB&M	J. A. Gilzean, et al., Junction City		Placer location about 1 mi. SE of Junction City. No published description. Idle. (Averill 41: 78.)
122	Glacier and Junction	Sec. 26, T 38 N, R 9 W, MDB&M	Roscoe J. Bonney, Box 93, Roseville	15 ft. of gravel on soft hornblende diorite bedrock; gold coarse and flaky.	2 claims about 9 mi. NW of Carrville. Sampled by trenching and washing in sluice boxes in 1946. No production reported since.
	Gold Bar Dredge (Gardella, Lewiston Gold Dredging Company)	Sec. 18, 19, T 33 N, R 8 W, MDB&M. Sec. 13, T 33 N, R 9 W, MDB&M	Undetermined	18,000 cu. yd. gravel yielded 18 cents per yd.; drilling indicated average of 17 cents per yd.	Bucket-line dredge operated on bar in Trinity River at Lewiston in 1932. Operation taken over by Lewiston Gold Dredging Company June 1937; dredge since dismantled. (Averill 33: 62; 38:118; 41:45.)
	Gold Bug				See Yuba Consolidated Gold Fields.
123	Gold Dollar Nos. 1 to 5	Sec. 19, T 34 N, R 10 W, MDB&M. Sec. 24, T 34 N, R 11 W, MDB&M	S. F. Gambell, Junction City and Agnes O'Neill, San Francisco	Gravel bank 10 ft. high above hard black schist bedrock; 12 ft. of overburden.	Hydraulic mine 4 mi. N of Junction City, including 100 acres along Canyon Creek. Leased and operated by Hypolito Espinosa since 1914. Water brought from Conrad Gulch through ditch 2700 ft. long to supply a No. 3 giant. Active intermittently.
	Gold Dollar Placer	Sec. 33, T 33 N, R 9 W, MDB&M	Wagner Mining and Milling Company, c/o Pearl O'Brien, Oakland	Gravel bank 20 to 100 ft. high above slate bedrock.	Hydraulic mine including 7 claims 4 mi. SW of Lewiston. Operated with 2 giants; water brought from Grass Valley Creek through ditch 10 mi. long. Good producer. (Brown 16:906.)
	Golden Eagle	Sec. 28, T 36 N, R 7 W, MDB&M	J. L. Sharpsteen, San Francisco		Placer claim 4 mi. S of Trinity Center. No published report.
124	Golden Gravels	Sec. 33, 34, T 34 N, R 11 W, MDB&M	Undetermined		Dragline dredge operated on Trinity River near Helena 1938-1939. Dredge has been moved from this location. (Averill 41: 35-36.)
	Golden Stream	Sec. 8, T 36 N, R 7 W, MDB&M	Undetermined		Placer claim about 1 mi. S of Trinity Center. No published report.
125	Goldfield Consolidated (Barthel Jacobs, Dump, Evans and Bartlett, Gilzean Bros., Hocker, Jacobs, Northern California Mines Company, O'Shay, Patterson and Low Bar, Red Hill, Sunrise)	Sec. 1, 2, T 33 N, R 11 W, MDB&M. Sec. 35, 36, T 34 N, R 11 W, MDB&M	Goldfield Consolidated Mines Company, Crocker Bank Bldg., San Francisco	River terraces. Gold close to bedrock and in crevices in bedrock.	Hydraulic mine; 1938-50. (Logan 26:38; Averill 41: 37-38, 51-52; herein.)
	Gold Range	Sec. 1, T 33 N, R 10 W, MDB&M. Sec. 36, T 34 N, R 10 W, MDB&M	E. J. Regan and J. H. Tinnen, Weaverville		Patented claim 1 mi. N. of Weaverville. No published description. Idle. (Averill 41:79.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Gold Run				See Coro.
	Good Chance	Sec. 5, T 33 N, R 9 W, MDB&M	Pearl E. and Florence May, Box 518, Weaverville		Small-scale placer claim about 1 mi. NE of Weaverville. Assessment work only.
	Good Enough				See Up Grade.
126	Good Friday (Post and Wilson)	Sec. 19, 20, T 33 N, R 10 W, MDB&M	Undetermined	Gravel 60 to 70 ft. high above slate bedrock.	Hydraulic mine on bench above Trinity River, 2 mi. S of Junction City. Worked with 2 giants; water brought from adjoining gulches was in short supply. (Miller 90:708; Crawford 94: 311, 96:447; Brown 16:912.) See also Bergin Placer, herein.
	Graf				See Bergin Placer, herein.
	Graves	Sec. 29, 30, T 37 N, R 7 W, MDB&M	Undetermined	Bedrock 20 to 60 ft. below surface.	Drift mine including 350 acres patented land 2 mi. N of Trinity Center. Worked through tunnels and shafts; some rich gravel prospected for dredging. (Brown 16:917.)
	Greenhorn Gulch				See Beaudry.
	Gribble				See Chapman and Fisher, herein.
	Hackerman Bar				See Brown's Bar.
	Hager and Haas				See Junction City Dredge, herein.
	Hall, Dave				See Yuba Consolidated Gold Fields.
	Hammer				See Swanson, herein.
	Hang Bar	Sec. 36, T 31 N, R 11 W, MDB&M	Undetermined	Gravel bank 20 ft. high above schist bedrock.	Hydraulic mine 4 mi. SW of Hayfork. Water brought from Hayfork Creek through ditch 4 mi. long. Yielded about $3,000 per year. (Brown 16:906.)
	Hansen	Sec. 28, T 6 N, R 6 E, HB&M	Undetermined		About 3 mi. NW of Burnt Ranch. Small ground-sluicing operation carried on when water available. Idle. (Crawford 96:448.)
	Hansen, E. E.	Sec. 19, 29, 32, 34, T 34 N, R 9 W, MDB&M	F. L. & R. T. Chapman, Junction City		Patented claim 3 mi. NE of Weaverville. No published description. Idle. (Averill 41:79.)
	Happy Home	Sec. 30, T 35 N, R 10 W, MDB&M	William H. Cordes, Junction City	Gravel bank 15 to 30 ft. high above slate bedrock; considerable coarse gold.	3 benches on East Fork of Canyon Creek near Dedrick. See also Canyon Placers, Inc., herein. (Brown 16:906.)
	Happy Jack	Sec. 2, T 33 N, R 11 W, MDB&M; Sec. 35, T 34 N, R 11 W, MDB&M	C. E. & V. L. Dalldorf, 851 N. California St., Burbank		Old hydraulic mine 2 mi. NW of Junction City. No published report. See also Goldfield Consolidated, herein.
	Harmon and Allen				See Lucky Strike and Effie Belle.
	Harmon Gold Placer	Sec. 13, T 34 N, R 11 W, MDB&M	E. C. Edwards, et al., Weaverville		Patented claim. No published report. Idle. Adjoins Canyon Placers, Inc., which see herein.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Harold	Sec. 25, 26, 34, 35, T 35 N, R 8 W, MDB&M	United States Government		Dredging ground along Trinity River 1 to 4 mi. NE of Minersville. Worked by Fairview Placers Dredge, which see herein.
127	Harold's Club Dredge (High Channel, Smith)	Sec. 36, T 31 N, R 11 W, MDB&M	E. J. Gunther, et al., 64-3rd St., Woodland	Gravel above bedrock of hornblende schist.	Dragline dredge and washing plant. See Bower and Matlock Placer also. (Averill 46:312, herein.)
	Haskin and Hubbell				See Yuba Consolidated Gold Fields.
	Hatchet Creek Placer				See Yuba Consolidated Gold Fields.
	Haunted Bar	Sec. 24, T 8 N, R 7 E, HB&M	Undetermined	Coarse gold and a little platinum.	Placer mine including 100 acres on Eagle and Slide Creeks 8 mi. N of Denny. Worked by ground-sluicing. (Brown 16: 917.)
	Havilah Gravels, Inc.	Sec. 33, T 34 N, R 8 W, MDB&M	Undetermined		4 mi. N of Lewiston. Dragline dredge equipped with 2-cu.-yd. bucket operated on Brouillard property in Eastman Gulch November 23 to December 31, 1941; 7,860 cu. yd. gravel yielded 338 oz. gold. (Averill 46:307.)
	Hawkins Bar (Brizzard Ranch, Trinity River Hydraulic Mine)	Sec. 20, 21, 28, 29, T 6 N, R 6 E, HB&M	Eleanore I. Holcombe, 1533 I Street, Eureka	Gravel bank 28 to 38 ft. high above slate bedrock; gold and a little platinum.	Hydraulic mine including 340 acres patented land 4 mi. SE of Salyer. Water brought from Hawkins Creek through 5 ditches having total length of 2½ mi. Some good ground. (Crawford 96:449; Brown 16: 907.)
	Hayfork Dredge (Hayfork Gold Dredging Company)	Sec. 11, 12, T 31 N, R 12 W, MDB&M	Undetermined	Gravel 10 ft. deep above soft tuff bedrock.	Dragline dredge first operated on Hayfork River near Hayfork in 1936. Top soil stripped with carryall and tractor; digging done by Lima dragline fitted with 45-ft. boom and 1½-cu. yd. bucket. Enough platinum recovered to pay wages of shovel operators. Dredge moved to Brown's Creek then to Indian Creek in 1938. See Indian Creek and Panwauket group also. (Averill 38:116-117.)
	Hayfork Gold Dredging Company				See Hayfork Dredge.
	Hays				See Bergin Placer, herein.
128	Hayward	Sec. 25, T 5 N, R 7 E, HB&M; Sec. 30, T 5 N, R 8 E, HB&M	Highland Mining Company, c/o A. L. Isensee, 210 Ash St., Red Bluff		Small scale placer mining on terrace gravels in 1938 near Del Loma. See also P&W Mining Company. (Averill 41:40.)
	Hazel	Sec. 14, T 32 N, R 8 W, MDB&M	Undetermined		Placer claim 7 mi. SE of Lewiston. No published report. Idle.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Henderson	Sec. 13, T 6 N, R 5 E, HB&M	Undetermined	Gravel bank 25 ft. high above slate bedrock; a little platinum accompanied the gold.	Hydraulic mine about 1 mi. E of Salyer, located 1896. Water brought from W fork of Shurburo Creek to operate 1 giant. (Brown 16:907; Logan 18:89.)
129	Heninger (Battle Creek 2 to 13, Prince Albert)	Sec. 35, 34, T 38 N, R 9 W, MDB&M	C. P. and Neil Heninger, Trinity Center	Coarse gold; many large boulders.	Placer mine in bed of Coffee Creek about 8 mi. W of Trinity River. Cut 200 ft. long, 100 ft. wide, 20 ft. deep made in 1938. (Logan 26:36; Averill 41:40.)
	Henry Jenkins				See Canyon Placers, Inc., herein.
	Henry Lorenz's Dutton Creek Placer				See Upper Dutton Creek.
	Hidden Treasure	Sec. (?), T 5 N, R 6 E, HB&M	Undetermined	40 ft. of gravel on slate bedrock; some good gravel.	Drift mine N of Burnt Ranch on W side of Trinity River. Adit 65 ft. long. (Brown 16:917.)
	High Channel				See Harold's Club Dredge, herein.
	Highland Mining Company				See Hayward.
	Hikes Hill				See Canyon Placer, Inc., herein.
	Hill Crest	Sec. 17, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim about 2 mi. SE of Junction City. No published report.
	Hilliard and Daisy (Daisy)	Sec. 13, 24, T 31 N, R 12 W, MDB&M	Terminal Plaza Corporation, 1860 Washington St., San Francisco		Placer claim about 1½ mi. S of Hayfork. Idle. No published report.
	Hindley	Sec. 5, 6, T 33 N, R 9 W, MDB&M	Eta Showalter, et al, Spring City, Pa.		Patented claim about 1 mi. NE of Weaverville. No published report.
	Hockey				See Goldfield Consolidated, herein.
	Hodges	Sec. 12, T 38 N, R 9 W, MDB&M	Undetermined		Placer claim about 10 mi. NW of Carrville. No published description. Idle. (Averill 41:80.)
130	Ho Hat	Sec. 9, T 34 N, R 11 W, MDB&M	David E. and Bernice Montgomery, Helena	Gravel above bedrock of soft blue slate.	Hydraulic mine. (Herein.)
131	Holland	Sec. 16, 17, T 38 N, R 8 W, MDB&M	Kate Holland and J. L. Coyle, Vancouver, B. C.	Gravel averaged 24 ft. deep for width of 30 ft.; gold coarse, with nuggets up to $600.	Hydraulic mine on East Fork of Coffee Creek about 3 mi. N of Coffee Creek Chalet. Operated for more than 50 years prior to 1926. Worked with "self-shooter"; boulders stacked by derrick. 5,000 to 6,000 sq. ft. of bedrock cleaned up in a season. (Logan 26:45-48; Averill 31:58.)
	Home Extension	Sec. 24, T 31 N, R 12 W, MDB&M	M. M. Fariss, Box L, Hayfork		Small hydraulic mine about 2 mi. S of Hayfork; operated February to April, 1950. Idle.
	Hook and Ladder	Sec. 5, 6, T 33 N, R 9 W, MDB&M	Ed Regan, et al, Weaverville		Old hydraulic mine just N of Weaverville; worked by power shovel and dry-land washing plant for short time in 1932. (Brown 16:907; Logan 26:36-37; Averill 33:62-63.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Hornet				See Coro.
	Hornet Bar				See Uphill Mining Company, herein.
	Horshoe Group	Sec. 35, T 33 N, R 10 W, MDB&M	Richard B. and Mildred Parker, c/o Mrs. G. C. Lorenz, Box 41, Douglas City		Placer claim on Steiner Flat 2 mi. N of Douglas City. No published report. Idle.
	Horseshoe and Homestake (Testy)	Sec. 18, T 33 N, R 9 W, MDB&M	Wm. Groth, 956 Mariposa Ave., Los Angeles, and J. E. Boudreaux and Edwin Lowry, Weaverville	Gravel bank 30 ft. high above slate bedrock.	Hydraulic mine ½ mi. S of Weaverville. Water taken from La Grange ditch and from Cooper, Watson, Kinkaid, and Gold Run Gulches. Idle. (Brown 16:907.)
	Horshoe Bend				See Swanson, herein.
	Howard & Campbell	Sec. 5, T 33 N, R 12 W, MDB&M	Undetermined	3 gravel benches; gravel 40 ft. deep on lower benches; bottom 12 ft. contained some coarse gold.	On N side of Trinity River at Big Bar. Lower benches worked; water taken from Manzanita Creek through ditch ¾ mi. long. Idle. (Logan 26:37.)
	Howell	Sec. 13, T 34 N, R 11 W, MDB&M	E. C. Edwards, et al., Weaverville		Patented claim 5 mi. N of Junction City adjoining Canyon Placers, Inc., which see herein. No published report. Idle.
	Hubbell				See Yuba Consolidated Gold Fields.
	Huertevant				See Valdor.
	Humboldt				See Buckeye Mining Company Placer.
	Hupp				See McMurry and Hupp.
	Hydraulic Gold Company				See Estabrook Gold Dredging Company.
	Hydraulic Hill				See North Fork, herein.
	Indian Creek and Panwauket Group (Casey, Hayfork Gold Dredging Company)	Sec. 23, 25, 26, 27, T 32 N, R 9 W, MDB&M	H. B. Fields, Weaverville	Gravel up to 35 ft. high above sandstone and conglomerate bedrock.	Hydraulic mine on Indian Creek 6 mi. SE of Douglas City. Hayfork Gold Dredging Company operated dragline dredge on Sec. 26 for short time in 1939. Idle. (Brown 16:907; Logan 26:38; Averill 33:63-64; 41: 39-40.)
132	Indian Creek Dredge (Bennett Dredge)	Sec. 5, 8, T 32 N, R 9 W, MDB&M	Uphill Mining Company, c/o V. B. Bennett, 211 No. 16th Street, Sacramento	Gravel over hard shale bedrock	Dragline and washing plant. (Averill 34:114; herein.)
133	Ingleside	Sec. 27, 28, T 35 N, R 8 W, MDB&M	Undetermined	Gravel 30 ft. deep; many rocks and boulders. Upper layers carried gold quartz float; a black, scaly gold was found near porphyry bedrock.	Hydraulic mine on bench of East Fork of Stuart Fork, 2 mi. N of Old Minersville. Water brought from East Fork of Stuart Fork through 6 mi. of ditch; water season lasted all year. Gravel washed through 60-ft. cut in bedrock and 18 sluice boxes paved with wooden blocks. Idle. See Beaudry also. (Crawford 96:450.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Interstate (Butts, Poker Bar, Record No. 1, 3, Spaulding)	Sec. 27, 28, 33, 34, T 33N, R9W, MDB&M	Poker Bar Mines Company, c/o Donald E. Wachhorst, 1020-8th St., Sacramento	Gravel 10 to 23 ft. deep.	Dragline dredge operated on Poker Bar 5 mi. NE of Douglas City from January 4 to July 14, 1940. (Averill 41:40.)
	Interstate Mines, Inc., Dredge	Sec. (?), T 33 N, R 8 W, MDB&M	Undetermined		Operated dragline dredge on Lowden Ranch proprety, which see, in Lewiston district in 1936. No published report.
	Ivy Gulch	Sec. 3, T 33 N, R 12 W, MDB&M	Undetermined	Gravel 15 to 40 ft. deep.	Hydraulic mine operated on S bank of Trinity River 2 mi. E of Big Bar. 1 giant supplied from Big Bar Creek under 70-ft. head. (Logan 26:38.)
	Jack Tar	Sec. 2, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim about 2 mi. NW of Weaverville. No published description. (Averill 41:81.)
	Jacobs				See Goldfield Consolidated, herein.
	Jeep	Sec. 5, T 33 N, R 9 W, MDB&M	C. P. Hecker, Weaverville	Gravel 40 ft. deep above sandstone bedrock.	Small-scale ground-sluicing operation on East Weaver Creek about 1½ mi. N of Weaverville. Assessment work only.
	Jennings Gulch	Sec. 4, T 33 N, R 8 W, MDB&M	Undetermined		Placer mine in Jennings Gulch 3 mi. NE of Lewiston. Worked on small scale. (Laizure 20:540; Haley 23:95.)
	Jim Sing				See Eastman, herein.
	Jitterbug	Sec. 33, T 34 N, R 9 W, MDB&M	Harold Squires, Jr., Box 231 Weaverville		Small-scale ground-sluicing operation on Browns Creek 4 mi. NE of Weaverville.
	Joe Sturdivant				See Bergin Placer, herein.
	Johnson Point	Sec. 4, T 32 N, R 10 W, MDB&M	Undetermined		Placer claim 4 mi. W of Douglas City. No published description. Idle. (Averill 41:81.)
	Joss	Sec. 7, 18, T 33 N, R 9 W, MDB&M	Undetermined	Gravel bank 40 ft. high above slate bedrock; some good ground.	Old hydraulic mine SE of Weaverville. Water brought from Rush Creek through ditch 12 mi. long; worked with 1 giant. (Brown 16:908.)
	Joy	Sec. 1, 12, T 30 N, R 10 W, MDB&M. Sec. 31, T 31 N, R 9 W, MDB&M	Undetermined		Placer claim about 9 mi. NE of Wildwood. No published description. Idle. (Averill 41:81.)
134	Junction City Dredge (Junction City Mining Company, Hager and Haas)	Sec. 12, T 33 N, R 11 W, MDB&M. Sec. 7, 18, T 33 N, R 10 W, MDB&M Sec. 35, T 34 N, R 11 W, MDB&M	Junction City Mining Company, 685-6th Street, San Francisco	River gravel over hard serpentine bedrock. Gold with some platinum.	Bucketline dredge; operated 1936-1948 when purchased by Fairview Placers and moved to Minersville. (Averill 38:117-118; herein.)
	Junction City Mining Company				See Junction City Dredge, herein.
	Junkan	Sec. 5, T 32 N, R 10 W, MDB&M. Sec. 32, T 33 N, R 10 W, MDB&M	W. Simpson, 141 S. Broadway, New York		Patented claim about 4 mi. E of Douglas City. No published report. Idle.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Just in Time				See Lucky Strike and Effie Belle.
135	Karrer (Sunflower)	Sec. 26, T 39 N, R 7 W, MDB&M	Lloyd L. Karrer, Trinity Center	Gravel bank above layer of cemented gravel.	Hydraulic mine; small scale. (Herein.)
	Katie Foley Group	Sec. 10, 15, T 37 N, R 7 W, MDB&M	Estate of F. C. Potter, et al., c/o A. L. Harrigan, 344 Kearney St., San Francisco		Patented claim about 2½ mi. E of Carrville. No published description. Idle. (Averill 41:81.)
	Keno				See Bergin Placer, herein.
	Keystone	Sec. 19, T 35 N, R 11 W, MDB&M	Undetermined		Old hydraulic mine on North Fork of Trinity River 7 mi. N of Helena. Idle. (Miller 90:726; Crawford 96:452.)
	Keystone Placer Mining Company				See California-Keystone, herein.
	King and Bayles				See King Hydraulic.
	King Hydraulic (King and Bayles)	Sec. 7 (?), T 36 N, R 11 W, MDB&M	Undetermined	Gravel bank 15 ft. high above slate bedrock.	Old hydraulic mine on Rattlesnake Creek 16 mi. N of Helena. (Brown 16:908.)
	Koon Ranch	Sec. 23, 24, T 6 N, R 5 E, HB&M	Undetermined	Gravel 25 ft. deep above slate bedrock.	Placer mine about 1 mi. S of Salyer. Test run by J. A. Koon prior to 1926 indicated gravel contains 7½ cents in gold per cu. yd., and nearly half as much platinum by weight. (Logan 18:88; 26:39.)
	Ladd	Sec. 33, T 7 N, R 7 E, HB&M	Grover and Willard Ladd, Denny		Placer claim at Denny. No published description. (Averill 41:81.)
136	La Grange (Clary and McCarthy, Mount Morensis, Railroad and Mount Morensis, Trinity Gold and Mining Company, Ward)	Sec. 3, 7, 8, 9, 10, 15, 16, 18, T 33 N, R 10 W, MDB&M	La Grange Placer Mines, Ltd., c/o B. Stookey, Weaverville	This Tertiary gravel deposit is in a fault block in the Weaverville Basin. Pit limited on Northwest by a thrust fault. Oligocene gravels (?) are underlain by slate of the Bragdon formation.	Very large hydraulic mine. Worked 1851-1918; produced $8,000,000 in gold. (Irelan 88:638; Miller 90:702; Crawford 94:311; 96:452-453; Brown 16:908; Tucker 22:257; Haley 23:94; Logan 24:182; 26:39-43; Averill 33:64-65; 41:43-44; herein.)
	Lander Mark and Company				See Nash Placer.
	Larsen (China Creek, Mason Bar)	Sec. 28 (?), T 7 N, R 7 E, HB&M	Estate of Wm. K. and Wallace Reese, Denny	Gravel bank 10 to 30 ft. high above granite bedrock.	Placer mine in New River district, near Denny. Water taken from China Creek. Small producer. (Brown 16:909.)
	Larsen and Harms				See Mires and Underseath, herein.
	Last Chance	Sec. 2, T 33 N, R 11 W, MDB&M. Sec. 35, T 34 N, R 11 W, MDB&M	Ward Hill and Henry C. Loft, Box 826, Eureka		Old hydraulic mine in terrace gravel on bank of Trinity River NW of Junction City. See Montezuma also.
	Last Hope No. 14	Sec. 20 T 38 N, R 9 W, MDB&M	H. M. Neal, Box 1291, Redding		Small placer mine on South Fork of Coffee Creek 12 mi. NW of Carrville. The sand and gravel uncovered by moving large boulders with gasoline-driven hoist is panned to recover the gold.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Laws				See Bergin Placer, herein.
	Lewiston Dredge (Lewiston Dredging Company, Metals Exploration Company, Placer Development, Ltd., Valdor Dredge)	Sec. 21, T 34 N, R 8 W, MDB&M	Undetermined	Depth of gravel 10 to 45 ft.; bedrock rough and hard in places.	Valdor dredge moved from Junction City by Lewiston Dredging Company, subsidiary of Metals Exploration Company. Began operation on Trinity River 6 mi. N of Lewiston in January 1923. Acquired January 1929 by M. L. Requa who continued operating until dredge taken over by Placer Development, Ltd., August 1930. Operating costs for 2,982,204 cu. yd. dredged between January 1, 1929 and October 1, 1931, were $0.0809 per yd. Dredge dismantled 1932. (Tucker 22: 139, 297, 601, 733-34; Haley 23:95; Averill 33:65-66.)
	Lewiston Dredging Company				See Lewiston Dredge.
	Lewiston Gold Dredging Company				See Gold Bar Dredge.
137	Lewiston Placers	Sec. 20, T 33 N, R 8 W, MDB&M		River terrace gravel over slate bedrock.	Hydraulic mine. (Herein.)
	Lincoln Gold Dredging Company	Sec. 23, T 33 N, R 9 W, MDB&M	E. M. Clark, French Gulch, W. K. Jensen, Lincoln		Dragline dredge operated on Leas and Lowden, Adrian, and Lunden properties on Trinity River 4 mi. W of Lewiston starting late 1939. Recovered 269 oz. gold and 31 oz. silver from 55,435 cu. yd. gravel. (Averill 41:45-47.)
	Linda Marie	Sec. 32, 33, T 1 S, R 8 E, HB&M	Undetermined	Gravel 50 ft. above creek level.	On Marie Creek 3½ mi. SE of Forest Glen. Idle. (Laizure 20: 543.)
	Lister	Sec. 17, T 33 N, R 8 W, MDB&M	Undetermined		Placer claim about 1 mi. N of Lewiston. No published description. Idle. (Averill 41:82.)
	Little Creek Placer	Sec. 31, T 32 N, R 12 W, MDB&M	Undetermined		Placer claim 5 mi. NW of Hayfork. Idle. (Logan 26:55; Averill 41:82.)
	Little Joe	Sec. 25, T 32 N, R 9 W, MDB&M	Undetermined	Gravel bank 5 to 20 ft. high above slate bedrock.	Hydraulic mine 6 mi. SE of Douglas City. Water taken from Indian Creek through ditch 2½ mi. long. Idle. (Brown 16:909.)
	Little Papoose	Sec. 14, T 34 N, R 8 W, MDB&M	W. S. Blakemore, Lewiston		Placer claim on Papoose Creek 3 mi. SE of Minersville. Worked intermittently.
	Log Cabin Bar	Sec. (?), T 7 N, R 7 E, HB&M	Undetermined	Gravel bank 40 ft. high above granodiorite bedrock.	Hydraulic mine in New River district located 1904. Water taken from Log Cabin Gulch for short season. Idle. (Brown 16: 909.)
	Long	Sec. 13, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim about 1 mi. S of Weaverville. No published description. (Averill 41:82.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Long Gulch	Sec. 17, T 35 N, R 8 W, MDB&M	Undetermined	Gravel bank 50 ft. high above slate bedrock.	Hydraulic mine 3 mi. N of Minersville worked in early days. Idle. (Brown 16:909.)
	Lorenz	Sec. 18, 19, T 33 N, R 9 W, MDB&M	Arbuckle Bros., Weaverville	Gravel 10 to 30 ft. deep.	Hydraulic mine 2 mi. S of Weaverville along Weaver Creek. Gravel stacked with giant. Ground said to have yielded about $5,000 per acre; season about 4 months long. See Oro Trinity Dredge also. (Tucker 22:97, 207, 257; 23:137; Logan 24:182; 26:42-43; Averill 33:66-67; 38:119; 46:311.
	Lowden Ranch (Interstate Mines, Inc.)	Sec. 23, T 33 N, R 9 W, MDB&M	Arthur Lowden, Weaverville		About 6 mi. NE of Douglas City. Interstate Mines, Inc., operated dragline dredge here from January 4 to July 14, 1940. (Averill 46:307.)
	Lower Buckeye (Trinity Gold Mining Company)	Sec. 19, 29, 30, T 37 N, R 7 W, MDB&M	Undetermined	Gravel bank 30 ft. high above slate bedrock; some good gravel.	Hydraulic mine on Buckeye Creek 2 mi. N of Trinity Center. Operated by Trinity Gold Mining Company; water brought from Buckeye Creek through ditch 2 mi. long. Idle since 1911. See also Buckeye Placer, herein. (Miller 90:717; Brown 16:909.)
	Lower Dutton's Creek Placer	Sec. 26, 35, T 33 N, R 10 W, MDB&M	Lorenz Company c/o Mrs. E. Meininger, Redding	Gravel bank 50 ft. high above slate bedrock.	Hydraulic mine 2 mi. NW of Douglas City. Said to have produced $300,000 prior to 1914. (Brown 16:909.)
	Lucky Mack				See Bower and Matlock.
	Lucky Strike	Sec. 5, (?), T 36 N, R 12 W, MDB&M	Undetermined	Gravel bank 15 ft. high above schist bedrock.	Placer mine on East Fork of New River about 2½ mi. above mouth of Pony Creek. (Brown 16:917.)
138	Lucky Strike and Effie Belle (Allen, Democrat Gulch, Harmon and Allen, Just in Time)	Sec. 13, 14, 23, 24, T 33 N, R 10 W, MDB&M	A. C. Meckel Estate, Weaverville	Gravel bank 30 ft. high above slate bedrock; coarse gold.	Hydraulic mine 2 mi. SW of Weaverville. Water brought from Democrat Gulch through ditch 1 mi. long. (Brown 16:910; Laizure 20:543.)
	Mahoney and Wallace	Sec. 31 (?), T 35 N, R 10 W, MDB&M	Canyon Creek Development Company, c/o R. A. Beland, 3532 Ardley Ave., Oakland		Hydraulic mine on Canyon Creek ¾ mi. N of Dedrick. Water brought from East Fork of Canyon Creek through ditch ½ mi. long. (Crawford 94:312; 96:455.)
	Majestic				See Buckeye Mining Company Placer.
	Manuel and Santos	Sec. 19, T 33 N, R 8 W, MDB&M	Undetermined		Placer location near Lewiston. No published description. Idle. (Averill 41:83.)
139	Maple Creek	Sec. 5, 6, T 32 N, R 10 W, MDB&M	Dan R. Barrow, Box 33, Junction City	Gravel bank 25 ft. high above slate bedrock.	Hydraulic mine 4 mi. S of Junction City. Water brought from Dutch Creek through ditch 3 mi. long; operated in winter months. Idle. (Brown 16:910.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Mark Twain	Sec. 3, T 33 N, R 12 W, MDB&M	Daniel Woodruff, Big Bar		Placer claim containing 7½ acres 2 mi. E of Big Bar. Worked on small scale.
	Martin	Sec. 24, T 34 N, R 9 W, MDB&M. Sec. 30, T 34 N, R 8 W, MDB&M	Undetermined		Placer claim 4 mi. SW of Minersville. No published description. Idle. (Averill 41:83.)
	Martin and Company				See Nash Placer.
	Martin and Setzer	Sec. 33, 34, T 34 N, R 8 W, MDB&M	J. W. Martin, Lewiston		2 patented claims in Eastman Gulch 4 mi. NE of Lewiston. About 15,000 cu. yd. gravel mined with bulldozer in 1941. See also Eastman, herein. Crawford 96:438; Brown 16:901.)
	Martinsville	Sec. 20, T 6 N, R 6 E, HB&M	R. J. Smith, Burnt Ranch		Patented placer claim 3 mi. E of Salyer. No published report. Idle.
	Mason Bar				See Larson.
	Maston				See Swanson, herein.
140	McAtee Bar	Sec. 27, 33 (?), T 7 N, R 7 E, HB&M	Undetermined	Gravel bank 15 ft. high above granite bedrock.	Hydraulic mine about 1 mi. NE of Denny. Yielded 30 cents a yard when mined 1920-21. (Scott 23:93.)
	McDonald				See Estabrook Gold Dredging Company.
	MacDonald	Sec. 2 (?), T 37 N, R 8 W, MDB&M	Undetermined		Drift mine on Coffee Creek ¼ mi. NW of post office. Prospected by a shaft; idle. (Logan 26:38.)
	McGillivray	Sec. 26, 27, 34, 35, T 34 N, R 11 W, MDB&M	J. T. Sullivan, et al., 2065 Spaulding Drive, Beverly Hills		Hydraulic mine on S bank of Trinity River, 5 mi. W of Junction City. 2 benches above river worked using giants with 5-in. nozzles. (Miller 90:706; Crawford 96:455.)
	McIlwaine				See Colby and McIlwaine.
	McKenney	Sec. 12, T 33 N, R 11 W, MDB&M	G. M. Hoskinson, Box 27, Junction City		Patented location near Junction City. No published report. See Montezuma placer which adjoins NW, and Junction City dredge, herein.
	McMurray and Hupp (Hupp, Trinity Consolidated)	Sec. 6, 7, 18, T 33 N, R 9 W, MDB&M	B. Stookey, Weaverville	Gravel bank 50 to 400 ft. high above slate and diorite bedrock.	Hydraulic mine near Weaverville comprising 2420 acres, of which 700 patented. A consolidation of several famous mines such as Bartolet, Douglas City, Ford and Foley, Harvey, Red Point, and Union Hill. Water brought from East Weaver Creek through 22-mi. ditch. Produced several million dollars. Idle. (Irelan 88:638; Miller 90:701, 717; Crawford 94:312; 96:455; Brown 16:915.)
	Meckel	Sec. 13, 14, T 33 N, R 10 W, MDB&M	Estate of A. C. Meckel, et al, Weaverville	Gravel bank 20 to 100 ft. high above diorite bedrock; some coarse gold.	Old hydraulic mine 1 mi. SW of Weaverville. Water brought from Democrat Gulch through ditch 2 mi. long. Good producer. Idle. (Brown 16:910.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Meckel	Sec. 36 (?), T 34 N, R 10 W, MDB&M	Estate of A. C. Meckel, et al, Weaverville		Old hydraulic mine 2½ mi. NW of Weaverville. Idle. (Averill 33:68.)
	Metals Exploration Company				See Lewiston Dredge.
	Mike Smith	Sec. 19, 30, T 33 N, R 9 W, MDB&M	State of California		Patented placer claim 2½ mi. S of Weaverville. Idle. See also Dobbin Gulch Mining Company, herein. (Averill 41:83.)
	Miller	Sec. 32, T 37 N, R 7 W, MDB&M	Undetermined		Old hydraulic mine about 1 mi. N of Trinity Center. No published report. See Yuba Consolidated Gold Fields also.
	Mineret	Sec. 2, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim 1½ mi. NW of Weaverville. No published description. Idle. (Averill 41:83.)
	Minersville Hydraulic Gold Mining Company				See Diener.
141	Minersville Placer	Sec. 22, 27, T 35 N, R 8 W, MDB&M	Undetermined	Gravel near rim about 30 ft. thick; cemented next to bedrock.	Hydraulic and drift mine 2 mi. N of Minersville along East Fork of Stuart Fork at Hayward's Flat, under which a drift 250 ft. long was driven. See Nugget Bar also. (Crawford 94:312-313; 96:456.)
	Mires and Garner				See Mires and Underseath, herein.
142	Mires and Underseath (Abrams, Alcan Mining Company, Coffee Creek Dredge, Larsen and Harms, Mires and Garner, Western Mines Company)	Sec. 28, 29, 30, 31, 33, 34, T 38 N, R 9 W, MDB&M	Mrs.E. L. Joseph, Helen Gates, and Evelyn Spiegelman, 182 Commonwealth Ave., San Francisco	Gravel over gabbro bedrock.	Bucketline dredge; operated 1947-51. See Nash Placer also. (Herein.)
143	Molitor	Sec. 33, T 37 N, R 11 W, MDB&M	Undetermined	Gravel on hornblende schist bedrock.	Small hydraulic mine on Grizzly Creek 19 mi. N of Helena. Operated by 2 men using giant with 4-in. nozzle and water head of 100 ft. Idle. (Averill 41:49.)
	Monk	Sec. 5, T 32 N, R 9 W, MDB&M	Undetermined	Gravel bank 5 to 20 ft. high above slate bedrock.	Hydraulic mine 1 mi. E of Douglas City. Idle. (Brown 16: 910.)
	Monte Christo and Apple Tree	Sec. 1, T 34 N, R 11 W, MDB&M	Undetermined		Placer location 2 mi. S of Dedrick. No published description. Idle (Averill 41:83.)
	Montezuma	Sec. 1, 2, 11, 12, T 33 N, R 11 W, MDB&M	L. and M. Door, 1062 Kains Ave., Albany	Gravel bank 30 to 40 ft. high above slate bedrock.	Hydraulic mine 1 mi. N of Junction City. (Brown 16:911; Logan 26:43.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Morris	Sec. 19, T 4 N, R 7 E, HB&M; Sec. 24, T 4 N, R 6 E, HB&M	Undetermined		Placer claim on Allen Creek 7 mi. N of Hyampom. No published report.
	Morris, Wm.	Sec. 25, T 32 N, R 9 W, MDB&M	Undetermined	20 to 50 ft. gravel on slate bedrock.	Hydraulic mine 6 mi. SE of Douglas City. Water brought from Kline Creek through ditch 1/2 mi. long; water supply limited. Small producer. (Brown 16:916.)
	Morrison Gulch	Sec. 12, 13, T 37 N, R 8 W, MDB&M	A. J. and M. H. McKay, Trinity Center		Patented claim near Carrville. No published report. Idle.
	Mount Morensis				See La Grange, herein.
	Mule Creek				See Cement and Mule Creek.
	Nash Placer (Abrams, Barstow and Company, Gibbons Company, Lander Mark and Company, Martin and Company, Zenobia)	Sec. 6, 7, 28, 29, 30, T 37N, R9W, MDB&M. Sec. 31, T 38 N, R 9 W, MDB&M	Estate of J. L. Joseph, Helen Gates and Evelyn S. Spiegleman, 182 Commonwealth Ave., San Francisco	Gravel bank 15 to 30 ft. high above flat, rough slate and granite bedrock.	Includes 866 acres patented land extending about 8 mi. W and S along Coffee Creek from Hardscrabble Creek. Property worked partly by hydraulicking, partly by drifting; water taken from South Fork of Coffee Creek and Abrams Creek. Tailings stacked by hydraulic elevators. Good producer. See also Mires and Underseath, herein. (Miller 90:697-698; Crawford 96:464-465; Brown 16:911; Tucker 22:6; Haley 23:95; Logan 26:43-44; Averill 31:60; 41:50-51.)
	Natomas Company	Sec. 17, T 37 N, R 7 W, MDB&M	Natomas Company, Sacramento (option)	Some cement gravel 1 to 3 ft. thick above serpentine bedrock in places.	Placer ground on W bank of Trinity River at Carrville. Tested 1950 by churn drill holes 40 to 70 ft. deep. No operation followed.
	Negunda	Sec. 12, T 6 N, R 5 E, HB&M	Undetermined		Small ground-sluicing operation in bed of a slough from Sharber Creek, about 2 mi. NE of Salyer. (Brown 16:917.)
	New Discovery Placer	Sec. 16, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim 3 mi. SE of Junction City. No published description. (Averill 41:84.)
	New River (New River Mining and Development Company)	Sec. 28 (?), T 7 N, R 7 E, HB&M	Grover and Willard Ladd, Denny	Gravel bank 20 ft. high above granite bedrock; some good ground yielded coarse gold and a little platinum.	Hydraulic mine including 130 acres on Quimby Creek. New River Mining and Development Company installed some equipment about 1938, but no production has been recorded.
	New River Mining and Development Company				See New River.
	Nickerson	Sec. 35 (?), T 38 N, R 9 W, MDB&M	Undetermined		Old drift mine on Coffee Creek 7 mi. W of Coffee P. O. Small producer 1926. Idle. (Logan 26:35.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
144	Niedra	Sec. 33, T 38 N, R 9 W, MDB&M	William Phelps, P.O. Box 323, Redding	Diorite dikes intrude mica schist and serpentine; heavy overburden.	About 11 mi. NW of Carrville. Several cuts 100 to 200 ft. long, 40 ft. wide, 20 ft. deep made in overburden by ground sluicing; some gold recovered in sluice boxes. Water brought from tributary of Union Creek through ditches 300 and 600 ft. long. (Averill 41:51.)
	Nigger Hill	Sec. 2, T 32 N, R 10 W, MDB&M	Undetermined	Gravel bank 30 ft. high above diorite bedrock.	Hydraulic mine 1½ mi. NW of Douglas City. Water brought from Dutton's Creek through ditch 3 mi. long. Idle. (Brown 16:911.)
	Northern California Mines Company				See Goldfield Consolidated, herein.
145	North Fork (Hydraulic Hill, Osborn)	Sec. 29, 30, 31, 32, T 34 N, R 11 W, MDB&M	W. G. Anderson, et al., Sherborn, Mass.	Gravel bank with bands of blue sand, clay and gravel. Gold was "medium-heavy."	Hydraulic mine. (Brown 16:907; Logan 26:45; Averill 41:52-53; herein.)
	North Star (Evening Star)	Sec. 17, 20, T 38 N, R 6 W, MDB&M	Undetermined	Gravel bars 100 ft. wide, 12 to 15 ft. deep included many large boulders.	Hydraulic mine on Mumbo Creek, 28 mi. W of Castella. Being equipped for operation in 1939. Averill 41:53.)
	Nugget Bar (Unity, Van Matre)	Sec. 22, 27, T 35 N, R 8 W, MDB&M	Undetermined	Gravel bank 20 to 60 ft. high above diorite and slate bedrock; many large boulders.	Hydraulic mine on East Fork of Stuart Fork 4 mi. N of Minersville. Water brought from East Fork of Stuart Fork through ditch 3½ mi. long. Idle. See also Minersville Placer. (Tucker 22:496; 23:140; Logan 24: 182; 26:45.)
	O'Connell	Sec. 33, T 32 N, R 9 W, MDB&M	Undetermined	Gravel bank 5 to 20 ft. high above slate bedrock.	Hydraulic mine 5 mi. SE of Douglas City. Water brought from Redding Creek through ditch ¾ mi. long. Idle. (Brown 16: 911.)
	O'Neill	Sec. 2, 11, 12, T 33 N, R 10 W, MDB&M	Undetermined	Tailings from La Grange hydraulic mine.	Bucketline dredge. About 1 mi. W of Weaverville. No published description. Idle. (Averill 41:84.)
146	Oregon Gulch Dredging Company	Sec. 7, 8, 9, T 33 N, R 10 W, MDB&M	Byron Stookey, Weaverville		See also La Grange, herein, and Sturdivant. (Herein.)
	Oro Corono				See Corono.
147	Oro Del Lomas Mining Company	Sec. 29, 30, T 5 N, R 8 E, HB&M	Oro Del Lomas Mining Company, c/o Estate of B. T. Wilke, Subway Terminal Building, Los Angeles (1950)		Slackline cable excavator; installation not completed. See French Bar also. (Herein.)
	Oro Trinity Dredge	Sec. 18, T 33 N, R 9 W, MDB&M	Undetermined		Dragline dredge with 1½ cu. yd. excavator operated near Weaverville through 1939 to June 1940. Moved to Scott River, Siskiyou County, 1940. See Lorenz also. (Averill 38:119; 46:311.)
	Osborn				See North Fork, herein.
	O'Shay				See Goldfield Consolidated, herein.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Oswald				See Canyon Placers, Inc., herein.
148	P & W Mining Company	Sec. 25, T 5 N, R 7 E, HB&M. Sec. 30, T 5 N, R 8 E, HB&M	Highland Mining Company, c/o A. L. Isensee, 210 Ash St., Red Bluff		Batham dragline dredge, which see herein, was operated on bar of Trinity River 1 mi. NW of Del Loma August 1 to October 15, 1946. Since removed. See Hayward Placer also.
	Pacific				See Buckeye Mining Company Placer.
	Pacific Gold Dredging Company	Sec. (?), T 37 N, R 7 W, MDB&M	Undetermined		Operated dredge near Carrville 1922, since dismantled and moved. (Tucker 22:258.)
149	Pansy	Sec. 15, T 36 N, R 8 W, MDB&M	Fred Dysert, c/o Gertrude Kellar, Trinity Center		A small hydraulic mine 4 mi. W of Trinity Center; worked intermittently. Production ca. 1940 was 5,000 cu. yd. per season. (Averill 41:53.)
	Parmenter				See Cinco Mineros Company.
	Parry, John				See Yuba Consolidated Gold Fields.
	Paterson and Low Bar				See Goldfields Consolidated, herein.
	Paulson				See Pickett and Stofer.
	Paulson and Hughes				See Bald Point.
	Phillips				See Big Bend.
150	Pickett and Stofer (American-Italian, Paulson)	Sec. 5, 6, T 33 N, R 8 W, MDB&M. Sec. 32, T 34 N, R 8 W, MDB&M	Paulson Bros., Inc., Lewiston	Cemented gravel.	Hydraulic mine on Paulson Ranch 3 mi. N of Lewiston. Gravel broken by driving coyote drifts and blasting with black powder; hydraulic giant used to move gravel; water brought from Rush Creek under head of 100 ft. Idle. (Tucker 22:92; 257; 23:139.)
	Pine Tree				See Upham.
	Pioneer Dredge	Sec. (?), T 33 N, R 9 W, MDB&M	Undetermined		Operated dragline dredge in Weaverville district. 1938. No published report.
	Pittsburg				See Canyon Placers, Inc., herein.
	Placer Development Company	Sec. 1, T 33 N, R 11 W, MDB&M	Undetermined		Was installing dragline dredge on Trinity River near mouth of Canyon Creek late 1939; no subsequent report. (Averill 41: 54-55.)
	Placer Development, Ltd.				See Lewiston Dredge.
151	Placer Exploration Company	Sec. 19, 29, T 33 N, R 10 W, MDB&M. Sec. 1, 2, 12, T 32 N, R 10 W, MDB&M. Sec. 32, T 36 N, R 7 W, MDB&M	Undetermined	River gravel	Three dragline dredges along Trinity River. See also Sunshine Dredging Company, herein, and Viking Dredge. (Herein.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Plummer Gulch-Nelson Gulch	Sec. 11, 12, T 36 N, R 7 W, MDB&M	Undetermined		Placer claim on East Fork of Trinity River about 3 mi. SE of Trinity Center. No published description. Idle. (Averill 41: 85.)
	Poker Bar				See Interstate.
	Pony Bar	Sec. 20, 28, 29, T 6 N, R 6 E, HB&M	Undetermined		Placer claim on Trinity River about 4 mi. E of Salyer. No published description. Idle. (Averill 41: 85.)
	Poor Pop's	Sec. 18, T 38 N, R 5 W, MDB&M	E. C. Jorgensen and C. L. Kalbaugh, Redding		Small scale placer operation about 10 mi. W of Castella. Worked when water available.
	Post and Wilson				See Good Friday.
	Poverty Flat	Sec. 18, 19, 30, T 33 N, R 9 W, MDB&M	A. A., C. O., and H. W. Arbuckle, Weaverville	Gravel bank 20 to 30 ft. high above diorite bedrock.	Hydraulic mine 3½ mi. SE of Weaverville. Water brought from Browns Creek through ditch 6 mi. long. Idle. (Brown 16:912.)
	Precious Twins	Sec. 20, T 4 N, R 6 E, HB&M	Frank Silva, Box 549, Vallejo		Small-scale placer mine on South Fork of Trinity River 7 mi. NW of Hyampom. Operated by 2 men 1923. Idle. (Tucker 23:94.)
152	Price	Sec. 4, 5, T 33 N, R 12 W, MDB&M	H. E. and Patricia Nichols, 8773 Lookout Mountains Ave., Hollywood 90046	Generally fine gravel on slate bedrock.	Hydraulic mine on terrace 50 ft. above Trinity River, ½ mi. E of Big Bar. Water brought from Sawmill Creek through ditch 1 mi. long. Large boulders blasted; sluice paved with block riffles. Formerly worked as drift mine. Idle. (Miller 90:709; Crawford 96:460.)
	Prince Albert				See Heninger.
	Prussion and Heinburger				See Canyon Placers, Inc., herein.
	Raab				See Chapman and Fisher, herein.
	Railroad and Mount Morensis				See La Grange, herein.
	Rainbow	Sec. 33, T 38 N, R 8 W, MDB&M	Undetermined	Gravel 20 to 50 ft. deep above slate bedrock.	Drift mine 6 mi. NW of Carrville. Worked through adit 120 ft. long and shafts 40 to 50 ft. deep; some rich ground mined. (Crawford 96:460; Brown 16: 917-918.)
153	Rainbow	Sec. 32, T 32 N, R 8 W, MDB&M	Undetermined	Gold weathered from white, sugary quartz vein.	4 unpatented claims 9 mi. SE of Douglas City. Worked by giant when water available; material also taken from seams; processed in Gibson mill during dry season. Idle. (Logan 26:24; Averill 33:45; 41:55.)
	Rainbow	Sec. 32, T 34 N, R 9 W, MDB&M	W. J. Wilson, et al., Weaverville		Patented claim about 2 mi. NE of Weaverville. No published report. Idle.
	Record No. 1, 3				See Interstate.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Reddings Creek Placer (Wallace Brothers)	Sec. 33, T 32 N, R 9 W, MDB&M	Undetermined	Stream gravel on bedrock of Tertiary sediments.	Hydraulic mine operated 1930 to 1932 on stream gravels along Reading Creek, 6 mi. SE of Douglas City. Reported production of $4,000. (Averill 33: 68-69.)
	Red Flat				See Canyon Placers, Inc., herein.
	Red Hill				See Goldfield Consolidated, herein.
154	Rex (Woodbury)	Sec. 7, 18, T 33 N, R 9 W, MDB&M	V. B. Bennett, 211 North 16th St., Sacramento	Gravel on sandstone bedrock.	Hydraulic mine; operated 1930-50. (Herein.)
155	Rising Sun Group	Sec. 21, 22, 26, 27, T 34 N, R 9 W, MDB&M	Stefaneda Froloff, Lewiston	Stream and terrace gravel 10 to 40 ft. deep, 400 to 1,200 ft. wide, on decomposed granodiorite and Tertiary sediment bedrock.	On Rush Creek about 6 mi. NW of Lewiston. Worked by ground sluicing and with hydraulic giant. Some gravel reported to run from 35 to 50 cents per cu. yd. (Averill 33:69-70.)
	Rittubush				See Schlomer and Meckel.
	River				See Tinsley and Treloar, herein.
156	Roe	Sec. 1, T 32 N, R 10 W, MDB&M. Sec. 31, T 33 N, R 9 W, MDB&M. Sec. 6, T 32 N, R 9 W, MDB&M	Undetermined	Gravel bank 25 ft. high above slate bedrock.	Old hydraulic mine 1 mi. N of Douglas City. Water brought from Weaver Creek through ditch 5 mi. long. Good producer. Idle. (Brown 16:912-913.)
	Ross and Trimble				See Cinco Mineros Company.
	Rough and Ready				See Canyon Placers, Inc., herein.
	Salt Flat	Sec. 13, 23, 24, T 33 N, R 9 W, MDB&M	Undetermined		Placer claims 2 mi. W of Lewiston. No published description. Idle. (Averill 41:86.)
	Salyer				See Swanson, herein.
	Sam Hampton	Sec. 16, 17, T 35 N, R 8 W, MDB&M	Undetermined	Gravel bank 30 to 50 ft. high above slate bedrock.	Drift mine 4 mi. N of Minersville near East Fork of Stuart Fork. Developed by adit 80 ft. long. Idle. (Brown 16:918.)
	Scharber Slough				See Gem.
	Schlomberger	Sec. 13, T 38 N, R 9 W, MDB&M	Undetermined		Placer claim on North Fork of Coffee Creek 9 mi. NW of Carrville. Idle. (Logan 26:48.)
	Schlomer and Meckel (Rittubush)	Sec. 28, 29, T 34 N, R 11 W, MDB&M	W. G. Anderson, et al., Sherborn, Mass.	Gravel bank 10 to 40 ft. high above slate bedrock.	Hydraulic mine at Helena located in 1850's. Water brought from North Fork Gulch; produced $1,500 to $3,000 per season in gold at $18 per oz.; some platinum. Idle. See also North Fork, herein. (Brown 16:913; Averill 41:52-53.)
	Senger Placer	Sec. 12, 13, T 33 N, R 10 W, MDB&M	John F. and Mildred M. Gibson, Box 461, Weaverville	Gravel bank 20 ft. high above granodiorite bedrock.	Hydraulic mine S of Weaverville. Water brought from West Weaver Creek through ditch ½ mi. long. Good producer. Idle. (Brown 16:913.)
	Shasta Hydraulic Gold Company				See Estabrook Gold Dredging Company.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
157	Sheridan	Sec. 19, T 33 N, R 10 W, MDB&M	J. J. Morgan and Dr. T. C. Muegge, Junction City	Gravel on low terrace with 30 ft. of overburden.	Placer mine on Trinity River, 2 mi. S of Junction City. Gravel mined by bulldozer, carried on belt conveyor to stationary washing plant; overburden removed by hydraulic giants. Operation handicapped by shortage of water from Simpson's Gulch. Idle. (Miller 90:703; Crawford 94:313, Averill 41:57-58.)
	Shoestring				See Coro.
	Sidney Smith				See Canyon Placers, Inc., herein.
	Siegfield	Sec. 25, T 32 N, R 9 W, MDB&M	Undetermined		Placer claim 7 mi. SE of Douglas City. No published description. Idle. (Averill 41:86.)
	Sikes				See Yuba Consolidated Gold Fields.
	Slate Creek	Sec. 2, 3, T 34 N, R 9 W, MDB&M	Undetermined	Gravel bank 40 ft. high above slate bedrock.	Hydraulic mine 4 mi. W of Minersville. Water brought from Slate Creek through ditch 1 mi. long. Idle. (Brown 16:913.)
	Smith Dredge				See Harold's Club Dredge, herein.
	Smith	Sec. 30, T 35 N, R 10 W, MDB&M	Undetermined		Placer claim at Dedrick. No published report. Idle.
	Smith Creek and Gibson	Sec. 14, T 32 N, R 10 W, MDB&M	Undetermined		Placer claim 2 mi. SW of Douglas City. No published report. Idle.
158	Snow Gulch	Sec. 21, 28, T 37 N, R 7 W, MDB&M	Undetermined		Drift mine 3 mi. N of Trinity Center. Developed by adits 40 and 60 ft. long and shaft 40 ft. deep. Good producer. Idle. (Brown 16:918.)
	South Fork				See Swanson, herein.
	Sowden	Sec. 2, T 33 N, R 10 W, MDB&M	Undetermined	Gravel bank 40 ft. high above slate bedrock.	Hydraulic mine 1¾ mi. NW of Weaverville. Water taken from West Weaver Creek through ditch 1 mi. long. Small producer. Formerly worked by Chinese; idle. (Crawford 96:463; Brown 16:913.)
	Spaulding				See Interstate.
	Starvation Gulch	Sec. 32, T 38 N, R 6 W, MDB&M	Clayton Kalbaugh, Redding		8 mi. NE of Carrville. Small-scale placer operation; worked intermittently.
159	Steiner Flat	Sec. 35, 36, T 33 N, R 10 W, MDB&M	Undetermined	Gravel bank 30 ft. high above slate bedrock.	Hydraulic mine 2 mi. N of Douglas City near junction of Trinity River and Dutton Creek. Water brought from Dutton Creek through ditch 2 mi. long. Idle. See Lower Dutton's Creek Placer also. (Brown 16:914; Averill 33:70.)
	Stengle				See Yuba Consolidated Gold Fields.
	Stevens Gulch (Zinn)	Sec. 17, T 38 N, R 9 W, MDB&M	Undetermined		Small hydaraulic mine South Fork of Coffee Creek. (Laizure 20: 543; Logan 26:35.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Stick To It	Sec. 8, T 37 N, R 7 W, MDB&M	T. H. and Ada G. McDevitt, Trinity Center		Placer claim near mouth of Coffee Creek. No published description. Idle. (Averill 41:87.)
	St. Marys and Live Oak				See Buckeye Placer, herein.
	Stoddard	Sec. 4 (?), T 33 (?) N, R 11 W, MDB&M	M. L. Peacock, Helena		Patented claim 1½ mi. SE of Helena. No published report. Idle.
	Stofer	Sec. 32, T 34 N, R 8 W, MDB&M	Paulsen Brothers, Lewiston		Patented claim in Posey Gulch 3½ mi. N of Lewiston. No published report. Idle.
	Sturdivant	Sec. 7, 8, 9, T 33 N, R 10 W, MDB&M	B. Stookey, et al., Weaverville	Gravel bank 15 to 35 ft. high above slate bedrock; some coarse gold.	Hydraulic mine 1½ mi. E of Junction City. Idle. See also La Grange, herein, and Oregon Gulch Dredging Company. (Brown 16:914.)
	Sunflower				See Karrer, herein.
	Sunrise				See Goldfield Consolidated, herein.
	Sunshine Company	Sec. 2, 12, T 32 N, R 10 W, MDB&M	R. R. Moore and Ray Nienaber, Douglas City	Gravel over shale bedrock.	Dragline dredge and washing plant; 1940-41. See also Placer Exploration Company, herein, and Viking Dredge. (Herein.)
	Swanson	Sec. 20, T 6 N, R 6 E, HB&M	Nels Swanson, Burnt Ranch (1941)		Placer claim 4 mi. E of Salyer. No published description. (Averill 41:87.)
160	Swanson (Hammer, Horseshoe Bend, Maston, Salyer, South Fork)	Sec. 13, 14, 15, 21, 22, 23, 24, 25, T 6 N, R 5 E, HB&M	Swanson Mining Corporation, c/o Walter M. Gleason, 333 Montgomery St., San Francisco 4	Terrace gravel. Six benches identified between 60-1000 feet above South Fork of Trinity River.	Hydraulic mine; worked intermittently for over 60 years. (Crawford 94:133; 96:463; Brown 16:913; Logan 18:85-88; 26:35-36; Averill 41:56-57, 59-62; herein.)
	Swift Creek				See Yuba Consolidated Gold Fields.
	Sydney Smith				See Canyon Placers, Inc., herein.
	T and O	Sec. 12, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim SW of Weaverville. No published report. Idle.
	T and T				See Tinsley and Treloar, herein.
	Tanner	Sec. 28, T 34 N, R 8 W, MDB&M	Mabel A. Tanner, 1529 West Doran St., Glendale		Placer claim 4 mi. S of Minersville. No published report. Idle. (Averill 41:87.)
	Teal and Perigot				See Gem.
	Ten Cent	Sec. 6, T 33 N, R 9 W, MDB&M. Sec. 31, T 34 N, R 9 W, MDB&M	Undetermined	Gravel bank 20 ft. high above slate bedrock.	Hydraulic mine 2 mi. NE of Weaverville. Water brought from Weaver Creek through ditch 2 mi. long. Some good ground formerly worked by Chinese; idle. (Brown 16:914.)
	Tener	Sec. 30, T 8 N, R 8 E, HB&M	Undetermined	Gravel bank 25 ft. high above slate bedrock.	Hydraulic mine about 3 mi. SW of Old Denny. Water brought from Slide and Emigrant Creeks through flume 1½ mi. long and ditch 1,000 ft. long. Idle. (Brown 16:914.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Testy				See Horseshoe and Homestake.
	Texas Bar	Sec. 6, T 32 N, R 9 W, MDB&M	Undetermined	Gravel bank 5 to 20 ft. high above slate bedrock.	Hydraulic mine ½ mi. N of Douglas City. Water brought from Indian Creek through ditch 3 mi. long. Good producer. Idle. (Brown 16:914.)
161	Thompson Divide Mining Company	Sec. 8, T 33 N, R 8 W, MDB&M. Sec. 11, T 36 N, R 7 W, MDB&M. Sec. 33, T 35 N, R 8 W, MDB&M	Thompson Divide Mining Company, Reno, Nevada		Three dragline dredges; 1946-48. (Herein.)
	Timmerman and McKenzie	Sec. 2, 11, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim on Weaver Creek 1½ mi. NW of Weaverville. No published description. Idle. (Averill 41:87.)
	Tin Can	Sec. 33, 34, T 34 N, R 9 W, MDB&M	J. J. Kent and Harry Smith, Weaverville		Small scale operation 3 mi. NE of Weaverville; worked intermittently.
162	Tinsley and Treloar (Fortune Teller, River, T and T, Wild Bird)	Sec. 4, 5, T 33 N, R 12 W, MDB&M	H. E. and Patricia Nichols, 8773 Lookout Mountain Ave., Hollywood 46	Terrace gravel over slate bedrock.	Hydraulic mine. (Logan 26:49; herein.)
163	Tolly Hill	Sec. 34, T 35 N, R 9 W, MDB&M	Undetermined	Gravel bank 50 ft. high above slate bedrock.	Hydraulic mine 4 mi. W of Minersville. Water brought from Bear Gulch through ditch 1½ mi. long. Idle. (Brown 16:914.)
	Tom Bell	Sec. 5, 6, T 33 N, R 9 W, MDB&M	Trinity County		Hydraulic mine about 1 mi. NE of Weaverville. Last worked 1863; water rented from Howe Ditch. Idle. (Laizure 20:543.)
	Top Notch	Sec. 12, 13, T 6 N, R 5 E, HB&M	Swanson Mining Corporation, c/o Walter M. Gleason, 333 Montgomery St., San Francisco 4	Gravel 30 ft. high above slate bedrock; gold and some platinum.	Hydraulic mine 3 mi. SE of China Flat. Water brought from Sharber's Creek through ditch 1 mi. long. See also Swanson herein. (Brown 16:915; Logan 18:89.)
	Townsend and Crozier	Sec. 2, T 33 N, R 12 W, MDB&M	V. S. Townsend and George Crozier, Big Bar		Small scale placer operation on Trinity River about 3 mi. E of Big Bar in March 1942. Gravel was dug with slusher and gold recovered in jig and sluice box. Operation short lived.
	Trinity Consolidated				See McMurry and Hupp.
	Trinity Development Company	Sec. 7, 8, T 37 N, R 7 W, MDB&M	Undetermined		Placer claim 1½ mi. NE of Carrville. No published description. Idle. (Averill 41:87.)
	Trinity Dredge	Sec. 5, 6, 7, 8, T 33 N, R 8 W, MDB&M	Trinity Dredging Co., c/o Mary L. Smith, Lewiston	Gravel 30 ft. deep with some large boulders and some cemented gravel; bedrock hard and tilted.	Bucket-line dredge operated on Trinity River 4 mi. N of Lewiston. Dredge dismantled. (Brown 16:919; Tucker 22:601, 734-735; Averill 33:70-71; 38: 122-123.)
	Trinity Farm and Cattle Company	Sec. 10, 11, 12, 14, 15, 22, T 36 N, R 7 W, MDB&M	Wm. Foster, et al., Trinity Center		Includes about 2,000 acres along Trinity River about 2 mi. SE of Trinity Center. Some drilling done to test ground for dredging. (Averill 33:71-72.)

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Trinity Gold and Mining Company				See La Grange, herein.
	Trinity Gold Mining Company				See Lower Buckeye.
	Trinity Gold Placer Mining Syndicate, Ltd.				See Blythe.
	Trinity River Hydraulic Mine				See Hawkins Bar.
	Trinity River Mining Company				See English Tom.
	Turney (Wickline)	Sec. 30, T 35 N, R 10 W, MDB&M	Joseph J. Spears, et al., Junction City	10-ft. gravel bank.	Small-scale operation at Dedrick on Canyon Creek. In 1946 L. L. Turney and Joe Wickline mined with bulldozer. Gold recovered in sluice box 20 ft. long. Small producer.
	Two Sisters and Wonder	Sec. 25, T 35 N, R 8 W, MDB&M	Undetermined		Placer claim about 3½ mi. NE of Minersville. No published description. Idle. (Averill 41:88.)
	Tyson	Sec. 30, T 35 N, R 10 W, MDB&M	Undetermined		Placer claim S of Dedrick. No published description. Idle. (Averill 41:88.)
	Union Gulch Placer	Sec. 9, T 33 N, R 9 W, MDB&M	Undetermined		About 2 mi. E of Weaverville. No published description. Idle. (Averill 41:88.)
164	Union Hill	Sec. 6, T 32 N, R 9 W, MDB&M	Edwin J. Regan, et al., Weaverville	River terrace gravel.	175 ft. above Trinity River about 1 mi. NE of Douglas City. First worked 1862, again 1906-14. Leased during early 1920's. Idle. See McMurry and Hupp also. (Crawford 94:314; 96: 465; Brown 16:915; Tucker 22: 97, 207; 23:58; Haley 23:94; Logan 26:49.)
	Unity				See Nugget Bar.
165	Up Grade (Bonus, Good Enough)	Sec. 18, T 6 N, R 7 E, HB&M	Louis A. Maire, 6107 Colby St., Oakland		Placer deposit about 3 mi. SW of Denny at confluence of New River and Panther Creek. Sampling by open cuts, adits, and shafts in 1939 said to have indicated large deposit of gravel suitable for hydraulicking. (Averill 41:64.)
166	Upham (Pine Tree)	Sec. 29, 30, T 32 N, R 8 W, MDB&M	M. H. Hackler, Junction City	Terrace gravel 15 to 50 ft. higher than present bed of North Fork Indian Creek; gravel about 24 ft. deep above hard hornblende schist bedrock.	Hydraulic mine 8 mi. SE of Douglas City. Water brought from Indian Creek through 3,800-ft. flume. (Averill 33: 72; 41:64.)
167	Uphill Mining Company (Hornet Bar)	Sec. 5, 8, T 32 N, R 9 W, MDB&M. Sec. 1, T 34 N, R 11 W, MDB&M. Sec. 29, T 34 N, R 10 W, MDB&M	V. B. Bennett, et al., Terminal Trucking Service, Sacramento	Gravel over greenstone bedrock.	Short-lived dredge operation. Gold averaged 4½ cents per cubic yard. See also Indian Creek (Bennett) dredge, herein.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Upper Dutton Creek (Henry Lorenz's Dutton Creek Placer)	Sec. 26, T 33 N, R 10 W, MDB&M	The Lorenz Company, c/o Mrs. A Meininger, P. O. Box 999, Redding		Old patented mine about 2½ mi. N of Junction City. No published description. Idle. (Averill 41:88.)
	Upton				See Corono.
	Valdor Dredge				See Lewiston Dredge.
	Valdor (Huertevant)	Sec. 1, 2, 26, 27, 34, 35, 36, T 33 N, R 11 W, MDB&M	Undetermined	Gravel 15 to 35 ft. deep above serpentine bedrock.	Old hydraulic and drift mine on Trinity River near Junction City. Worked by bucket-line dredge starting November 1916; one of chief producers of platinum in Trinity County. (Brown 16: 916; Logan 18:84; 26:64.)
	Van Matre				See Nugget Bar.
	Viking Dredge	Sec. 2, 12, T 32 N, R 10 W, MDB&M	Viking Dredging Company, Box 498, Chico (1941)		Dragline dredge equipped with 2-cu.-yd. bucket operated on bars in Trinity River near mouth of Redding Creek 1939-1940. Taken over by Placer Exploration Company, which see herein, March 1941. (Averill 38: 123, 41:66; 46:313.)
	Wallace	Sec. 13, 14, T 32 N, R 9 W, MDB&M	Undetermined		Placer claim about 5 mi. SE of Douglas City. No published description. (Averill 41:89.)
	Wallace Brothers				See Reddings Creek Placer.
	Ward	Sec. 10, T 33 N, R 10 W, MDB&M	Robert Ward, c/o Byron Stookey, Weaverville		Hydraulic mine at head of Oregon Gulch about 2 mi. W of Weaverville. Later included in La Grange operation, which see herein. Idle. (Miller 90:696-717; Dunn 92:484.)
	Watson Bar	Sec. 23, T 5 N, R 7 E, HB&M	Undetermined	Gravel bank 30 ft. high.	Hydraulic mine on Trinity River 2 mi. W of Del Loma. Water brought from Swede's Creek and carried across river by canvas hose suspended on wire rope inside hose. Idle. (Crawford 96:466.)
	Weaver Creek Placer	Sec. 19, 30, T 33 N, R 9 W, MDB&M	Milton J. and Theresa D. Silva, Weaverville		About 2 mi. S of Weaverville. No published description. Idle. (Averill 41:89.)
	Weaver Dredging Company				See Batham Dredge, herein.
	Western Mines Company				See Mires and Underseath, herein.
	Wheaton and Stuart	Sec. 8, 9, T 33 N, R 10 W, MDB&M	Undetermined		Placer claim 2 mi. E of Junction City. Idle. (Averill 41:89.)
	Whitmore	Sec. 19, T 33 N, R 10 W, MDB&M	Emily A. Gribble, Junction City		Patented claim about 3 mi. S of Junction City. Idle. (Averill 41:89.)
	Wickline				See Turney.
	Wild Bird				See Tinsley and Treloar, herein.

GOLD, PLACER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Wild Cat	Sec. 34, T 35 N, R 9 W, MDB&M	Undetermined		Placer claim 5 mi. W of Minersville. No published description. Idle. (Averill 41:89.)
	Wilker	Sec. 5, T 37 N, R 7 W, MDB&M	Undetermined	Gravel bank 10 to 45 ft. high above schist bedrock; some coarse gold.	Drift mine on Hatchet Creek N of Trinity Center. 80-ft. adit; water brought from Hatchet Creek through ditch 1 mi. long. Idle. (Brown 16:918.)
	Wilson	Sec. 19, 30, T 35 N, R 10 W, MDB&M	G. D. and M. M. Fullerton, Weaverville		Patented claim on Canyon Creek at Dedrick. No published report. Idle.
	Wilt	Sec. 12, 13, T 34 N, R 11 W, MDB&M	E. C. Edwards, et al., c/o Charles Edwards, 5546 Kales St., Oakland		See Canyon Placers, Inc., herein.
	Woodbury				See Rex, herein.
	Woodbury	Sec. 35, T 31 N, R 11 W, MDB&M	Undetermined	Gravel bank 20 ft. high above schist bedrock.	Hydraulic mine 6 mi. SE of Hayfork. Water brought from Hayfork Creek through ditch 4½ mi. long; some good ground but water supply poor. Idle. (Brown 16:916.)
	Wyoming				See Yuba Consolidated Gold Fields
168	Yuba Consolidated Gold Fields	Sec. 4, 5, 8, 9, T 36 N, R 7 W, MDB&M. Sec. 32, T 37 N, R 7 W, MDB&M	Yuba Consolidated Industries, Inc., 351 California St., San Francisco		A number of patented and unpatented placer claims in Trinity Center area including: Brush Creek, California, Center, Coyle, Gold Bug, Dave Hall, Haskin and Hubbell, Hatchet Creek, John Parry, Sikes, Stengle, Swift Creek, and Wyoming. Much of gravel in claims along Trinity River has been dredged by Carrville Gold Company dredge, which see herein, and Estabrook Gold Dredging Company dredge, which also see. (Crawford 96:448-449; Brown 16:906.)
	Zenobia				See Nash Placer.
	Zinn				See Stevens Gulch.

IRON

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
169	Hill Top	Sec. 2, 3, T 37 N, R 7 W, MDB&M. Sec. 34, 35, T 38 N, R 7 W, MDB&M	Victor Robinson, Asa and Glyn Douthit, Redding; leased to Scott Valley Mining and Milling Company, Inc., in 1956.		24 claims about 4 mi. NE of Carrville. Access road built up Copper Creek 1956. Carload of magnetite mined from outcrop in sec. 34 assayed 63.68% iron, 0.012% phosphorous, 0.018% sulfur.
170	Iron Chief No. 1 and 3.	Sec. 4, T 30 N, R 10 W, MDB&M	Cecil L. Drenman, Box 40, Douglas City and Don Matheson, Lewiston		Undeveloped magnetite prospects on N slope Chanchelulla Peak about 11 mi. SE of Hayfork. Idle.

LIMESTONE

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
217	Barker Creek	Sec. 16, 17, T 32 N, R 11 W, MDB&M		Deposits of limestone and dolomite form cliffs in canyon of Barker Creek.	Large deposit, impure. (Herein.)
218	Barker Mountain	Sec. 32, T 33 N, R 11 W, MDB&M. Sec. 5, T 32 N, R 11 W, MDB&M		Limestone on a small mesa northwest of Barker Mountain.	Small for commercial deposit, unless mined with neighboring deposits. About 600 by 1200 ft., 150 ft. thick. Elevation 4500-4800 ft. (Herein.)
219	Bridge Gulch	Sec. 34, T 31 N, R 11 W, MDB&M (projected)		Permian (?) limestone overlies greenstone.	2 deposits. Smaller deposit is about 1000 ft. long and 150 ft. thick. Good analysis but remote. (Herein.)
	Brown's Mountain	Sec. 21, T 33 N, R 9 W, MDB&M. Sec. 3, T 33 N, R 10 W, MDB&M	Undetermined		Limestone deposits outcrop 3 mi. NW and SE of Weaverville. Use was made in Weaverville of lime burned in small kilns at these deposits. (Aubury 06: 94; Brown 16:920; Logan 26: 62; 47:334.)
	Butter Creek			Very small lenses a few feet wide and a few yards long crop out at Butter Creek Caves.	2½ mi. E of Hyampom deposit.
220	Byrons Creek	Sec. 22, 27, T 31 N, R 10 W, MDB&M		Horizontal, slightly faulted, massive limestone deposit overlies metavolcanic rocks and chert-rich sedimentary rocks.	Mineable limestone estimated at 50 million tons. Poor access. (Herein.)
221	Cave Creek	Sec. 12, T 1 S, R 7 E, HB&M		A lens of steeply dipping limestone.	Lens is over a mile long and 100+ ft. thick. 2 smaller deposits are nearby. (Herein.)
222	China Gulch	Sec. 26, 35, T 31 N, R 11 W, MDB&M. Sec. 2, T 30 N, R 11 W, MDB&M		2 limestone deposits lie in or adjacent to a fault zone (?), paralleling Hayfork Creek.	Requires mining below creek level on an undetermined structure. Remote location. (Herein.)
	Copper Hill			See Cave Creek.	1½ mi. N of Cave Creek deposit.
223	Del Loma	Sec. 30, T 5 N, R 8 E, HB&M. Sec. 23, 24, 25, T 5 N, R 7 E, HB&M		Small lenses. The largest deposit dips steeply with possible thickening owing to folding and faulting.	Caverns are a tourist attraction. Deposits are small and location is remote. (Herein.)
224	Dutch Creek	Sec. 35, T 33 N, R 11 W, MDB&M. Sec. 11, T 32 N, R 11 W, MDB&M		Small east-dipping lens of Permian (?) limestone. A smaller lens of dolomitic limestone crops out over a mile to the SW.	Largest lens is less than 1500 ft. long. (Herein.)
225	Gunsight Peak	Sec. 8, T 31 N, R 11 W, MDB&M		Small lenses of "micaceous marble" on the NE slope.	About 250 ft. thick. Poor access. (Irwin, W. P. 63:1.)
226	Hall City Cave	Sec. 28, 29, 32, 33, T 30 N, R 10 W, MDB&M		The major deposits and 2 lesser outcrops of Permian (?) limestone. Greenstone country rock.	Good analysis, but remote. Most accessible deposit to Sacramento Valley. Cave a possible tourist attraction. (Herein.)
227	Hayfork Bally	Sec. 18, 19, T 33 N, R 12 W, MDB&M		A gray limestone deposit 120 ft. thick dips steeply to the NE.	Crops out along a U.S. Forest Service Road slightly over 2 mi. from its junction with the Big Bar-Corral Bottom road.
228	Hyampom	Sec. 36, T 3 N, R 6 E, HB&M. Sec. 1, T 2 N, R 6 E, HB&M		Several lenticular gently dipping masses of limestone; in narrow down-dropped fault block; sheared and brecciated zones present.	Good quality; rugged terrain. Proposed Eltapom reservoir may cover deposit. (Herein.)

LIMESTONE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
229	Indian Creek	Sec. 19, 29, 33, T 32 N, R 8 W, MDB&M		"Micaceous marble" at or near the base of the Abrams formation.	Partly circles headwaters area of Indian Creek. Dips 25° to 50° N and E; estimated thickness 50 ft. Poor access. (Herein.)
230	Limekiln Gulch	Sec. 21, 28, 29, 32, T 33 N, R 9 W, MDB&M		Lens of moderately dipping "micaceous marble" bordering Trinity River near base of Abrams formation. A similar lens 1½ mi. downstream on N bank of Trinity River. Latter lens may be flooded by proposed Helena Reservoir.	Some stone on Brown Mountain quarried and burned in local kiln; pre 1906. (Aubury 06: 94; Irwin 63:1.)
	Limedyke Mountain			Very small lenses of limestone N of Limedyke Mountain.	3½ mi. S of Hyampom deposit.
231	Limestone Creek	Sec. 30, 31, 32, T 33 N, R 11 W, MDB&M (projected)		2 deposits of Permian(?) limestone along Limestone Ridge E of Limestone Creek. Light gray, gently dipping, overlies greenstone; cliff-forming. Northernmost deposit along Hayfork Divide.	Main deposit is arcuate in plan, 1000 ft. across and 200 ft. thick. Relatively inaccessible.
232	Limestone Gulch	Sec. 9, 11, 16, T 31 N, R 11 W, MDB&M		2 exposures: (1) at head of Limestone Gulch; (2) near summit of ridge W of Willow Gulch.	Small deposits; elevation 3700-4000 ft. (Aubury 06:94.)
233	Limestone Ridge	Sec. 35, T 37 N, R 12 W, MDB&M		A small, isolated, gently dipping, deposit on hill 5792, 3 mi. S of county line. "Beautiful karst topography, including one oval-shaped sink 100 ft. long and 20 ft. deep."	"Limestone Ridge" a definite misnomer, as most of ridge is glaucophane schist. (G. Davis, personal communication.)
234	Manzanita Creek	Sec. 5, T 33 N, R 12 W, MDB&M		A nearly vertical lens of medium gray crystalline limestone crops out at mouth of creek; strikes NW; 100 ft. thick. Tapers out to N and S.	Small tonnage.
235	New River	Sec. 18, 19, 30, 31, T 7 N, R 7 E, HB&M. Sec. 6, 7, T 6 N, R 7 E, HB&M		Gray, fine crystalline limestone; dips steeply. Belt is 5 mi. long.	Good analysis but extremely isolated; poor accessibility. (Herein.)
	North Rattlesnake Creek	Sec. 17, T 1 S, R 8 E, HB&M		A steeply dipping deposit is only a few feet in maximum width.	Small tonnage. Poor location for local use.
236	Oregon Gulch	Sec. 3(?), T 33 N, R 10 W, MDB&M			A body of limestone from which lime was burned in 1856. May be SW of Section 3 as resurveyed. (Aubury 06:94.)
237	Potato Creek	Sec. 6, 7, T 30 N, R 10 W, MDB&M		2 gently dipping deposits of dense gray cliff-forming limestone. Northernmost deposit rests on granitic rock, possibly in thrust contact.	Estimated 12 million tons in northern deposit. Remote locality.
				Southernmost deposit overlies chert and greenstone; is faulted with dolomitization common near fault.	Estimated 40 million tons in southern deposit, partly dolomite. Locality is remote. (Herein.)

LIMESTONE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
238	Prospect Creek	Sec. 16, 17, 21, 27, T 28 N, R 11 W, MDB&M		A series of light gray, dense, steeply dipping limestone lenses at the mouth of Texas Chow Creek. Weathers to a bluish-gray pitted or pockety surface. Brecciated and sheared.	Large lenses at NW end of deposit. Good analysis, but extremely isolated. (Herein.)
	Spring Gulch	Sec. 14, T 32 N, R 9 W, MDB&M		Gently dipping "micaceous marble" near the base of the Abrams formation.	Near head of gulch. Small deposit, poor access.
239	White Rock	Sec. 19, 20, T 28 N, R 10 W, MDB&M		Triassic limestone on Trinity-Tehama county line.	Elevation 5500-5700 ft. (Irwin 63:1.)

MANGANESE

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
171	Armstrong No. 2 and 3 (Savage No. 2 and 3, Three Rattles and a Button)	Sec. 19, 20, T 3 S, R 8 E, HB&M	Mad River Manganese Company, Clarence and Howard Fry, Ruth	Ore in belt of red and white chert. Black oxides at surface give way to rhodochrosite, hausmannite and bementite with depth.	(Trask 50:302-304; herein.)
172	Barry Creek	Sec. 18, T 27 N, R 12 W, MDB&M	Ann Anderson, Ruth	Lenses of black manganese oxide in chert of Franciscan formation.	80 tons of sorted ore averaging 49% Mn shipped in 1955-56. (Herein.)
173	Bertha (Yolla Bolly)	Sec. 32 and 33, T 27 N, R 10 W, MDB&M	John Mosier, Hayfork (1940); A. M. Knapp and associates (1941).	Manganiferous chert and rhodochrosite, in belt of thin-bedded and massive chert 500 ft. thick and 1 mi. long. Two ore zones 12 ft. and 2 ft. wide; maximum continuous exposure along strike is 300 ft.	On south side of North Yolla Bolly Mtn, 12-15 miles from nearest road. Worked during World War I, no ore shipped. Estimated average grade 20% Mn; maximum 35% Mn. (Trask 50:305.)
	Black Bear	Sec. 2, 11, T 25 N, R 12 W, MDB&M	Alton and Lloyd Iliff, and Frank S. Brown, Box 32, Garberville		A manganese prospect 22 mi. SE of Ruth. No production recorded.
174	Black Oak	Sec. 5, T 3 S, R 6 E, HB&M	Undetermined	Deposit of low grade, siliceous manganese.	3 mi. NW of Zenia. Mined in 1942. Carload of sorted material shipped to Metals Reserve Company stockpile at Arcata failed to meet required minimum grade, and property was abandoned. (Trask 50:307.)
	Black Rock	Sec. 12, T 3 N, R 6 E, HB&M	Located 1940 by Lawrence Lecksone	Compact mass of black oxide in chert, surrounded by serpentine. Chert strikes N 40°E, dips 55°N.	In 1941, Wilson estimated 50 tons of ore; some high grade. (Trask 50:309.)
	Black Jackson				See Bonanza.
	Blue Bird				See Blue Jay, herein.

MANGANESE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
175	Blue Jay (Blue Bird, McKnight)	Sec. 8, 17, T 26 N, R 12 W, MDB&M	F. A. Stockel, et al., Box 32, Garberville; leased by K. P. F. and F. Mining Company of Redding since 1952.	Lenses of manganese oxide in chert. Minerals are psilomelane, pyrolusite, hausmannite, bementite, rhodochrosite.	Principal manganese ore producer in Trinity County. Various lessees between 1942-55. Ore is high grade. (Averill 41:67-68; Jenkins 43:90-91; 196; 50: 310; herein.)
	Blue Lizard	Sec. 9, T 4 S, R 6 E, HB&M	White Ranch (?)	Assay 30% Mn, 25% Silica, high iron content.	10 mi. E of Alderpoint. Known since 1918.
176	Bonanza (Black Jackson)	Sec. 3, 10, T 27 N, R 12 W, MDB&M	Frank Stockel, et al., Box 32, Garberville; leased by K. P. F. and F. Mining Company of Redding in 1952.	Manganese oxides occur in beds in chert that is enclosed by Franciscan sandstone.	12 mi. SE of Ruth. Some ore mined from open cut in 1944, shipped with ore from Blue Jay mine. Carload of ore mined from surface cuts shipped by lessees in 1955. (Trask 50:311.)
	Caudwell				See Spider.
177	Coldwater No. 1 and 2	Sec. 5, T 4 S, R 6 E, HB&M	Estate of William Pitt White, Alderpoint; leased to Ray Helmke in 1942-43.	Lumps of manganese oxide in loose red soil; probably landslide.	Yielded 3 carloads of ore assaying 54% manganese. (Trask 50: 313; herein.)
178	Double A	Sec. 16, T 3 S, R 8 E, HB&M	Ann L. Anderson, Ruth	Hausmannite (?) in thin-bedded red chert.	Produced 87 tons averaging 39% Mn in 1944. (Trask 50:314-315; herein.)
179	Goat Camp	Sec. 35, 36, T 29 N, R 11 W, MDB&M	George Biewart and W. O. Friend, Hayfork	Black manganese oxides coating pink rhodonite crop out over area 5 by 10 ft.	5 mi. S of Wildwood. No record of production. (Averill 41:67.)
180	Griffiths (J. K.) Mining and Development Company (Promise)	Sec. 18, T 2 S, R 8 E, HB&M	Ann Anderson and Joseph H. Hope, Ruth	A band of manganese oxide chert and shale of Franciscan formation.	Produced 100 tons of ore averaging 47% Mn in 1944. (Herein.)
181	Hale Creek	Sec. 23, T 1 S, R 6 E, HB&M	Ray F. Helmke, c/o Bradley & Ekstrom, 24 California St., San Francisco	Lens of hausmannite, bementite, and rhodochrosite in chert and sandstone of the Franciscan formation.	Produced 4000 tons of ore averaging 42% Mn. (Trask 50: 316-319; herein.)
	Johnston				See Old Bill, herein.
	Lucky Bill				See Old Bill, herein.
182	Lucky Sunday	Sec. 32, T 27 N, R 12 W, MDB&M	Frank Stockel and Melvin Fowler, Box 32, Garberville	Bed of manganese ore in thin-bedded chert of Franciscan formation.	13 mi. SE of Ruth. In 1943, 200 long tons ore averaging about 40% manganese reportedly produced. About 60 tons 48% manganese ore mined from open pit by K. P. F. and F. Mining Company in 1954. Ore hauled in trucks 130 mi. to Redding and shipped by train to Wenden, Arizona. (Trask 50:323.)
183	Manganese Queen	Sec. 26, T 30 N, R 12 W, MDB&M	Charlie Crews, Hayfork	A mass of rhodonite, bementite and rhodochrosite in thin-bedded chert.	600 tons (?) of ore mined in 1942. (Trask 50:323-330; herein.)
	McKnight				See Blue Jay, herein.
184	McKnight and Kindred (White Maple Springs)	Sec. 8, T 4 S, R 6 E, HB&M	Estate of Wm. P. White, Alderpoint	Landslide area. Ore in manganiferous chert.	Some low grade manganese ore was developed 3½ mi. NE of Jewett Siding. (Bradley 18:91; Logan 26:63; Trask 43:205; 50:340.)
	Moody				See Neafus Peak.

MANGANESE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
185	Neafus Peak (Moody)	Sec. 7, T 4 S, R 6 E, HB&M	Moody Ranch, Alderpoint	A body of manganiferous chert.	On the S slope of Neafus Peak. It produced a few carloads of ore in 1916 and 1917. In 1918 63 tons of 40% ore are reported to have been shipped. (Bradley 18:90; Logan 26:63; Trask 50:330.)
186	Old Bill (Johnston, Lucky Bill)	Sec. 9, T 28 N, R 11 W, MDB&M	T. E. Reynolds, 711 Second St., Davis	Four ore bodies in a belt of chert. Primary minerals, very little oxide.	40 tons of ore stockpiled for shipment in 1941. (Logan 26:63; Averill 41:90; Jenkins 43:200; Trask 50:322; herein.)
	Promise				See Griffiths (J. K.) Mining and Development Company, herein.
	Rainy Day	Sec. 8, T 26 N, R 12 W, MDB&M	Located in 1941 by M. C. Fowler, F. A. Stockel, and J. M. McKnight.	Boulder 20 feet long and 4 feet wide, extending N 40° W and slopes 30°SW. Fine-grained rhodochrosite in chert.	1500 feet north of Blue Jay mine. (Trask 50:332.)
	Red Cliff	Sec. 36, T 5 S, R 8 E, HB&M	W. J. Azbill, Covelo (1950)	Partly-oxidized brown and black carbonate ore in massive and thin-bedded chert.	Manganese prospect 12 mi. SE of Hoaglin, near the southern county line. Idle. (Bradley 18:90; Logan 26:63; Trask 50:332.)
	Salt Creek	Sec. 18, T 30 N, R 11 W, MDB&M	Located in 1940 by R. S. and Harriet Hinch	Block of carbonate ore 10 feet long and 5 feet wide, lies in meta-sediments. Estimated grade 35% Mn.	3 miles southeast of Peanut. Developed to depth of 2 feet. (Trask 50:333)
	Savage No. 2 and 3				See Armstrong No. 2 and 3, herein.
187	Shell View	Sec. 16, 17, T 4 S, R 6 E, HB&M	Estate of William P. White; R. F. Helmke, Garberville, lessee (1943)	Manganese oxide and carbonate associated with bands of chert in the Franciscan formation.	One carload of ore shipped in 1943. (Trask 50:334-335; herein.)
	Skaggs (Skaggs & Foss Group)	Sec. 15, 22, 24 (?), T 29 N, R 11 W, MDB&M	Carol Skaggs, Cottonwood	Deposits of rhodonite in chert.	Near Dubakella Mountain. (Averill 41:68; Trask 50:335.)
188	Spider (Caudwell)	Sec. 16, T 28 N, R 11 W, MDB&M	Estate of J. D. Rourke, Hayfork	Black manganese oxides cut by quartz veins and stringers crop out over area 100 ft. wide, 600 ft. long. Low grade.	9 mi. S of Wildwood. No production reported. (Averill 41:68-69; Trask 50:335-337.)
189	Stockton	Sec. 9, T 3 S, R 6 E, HB&M	Warren Stockton, Zenia	Ore is in several patches over area 200 by 300 ft. on a steep slope; ore sample assayed 9.2% Mn.	About 1½ mi. W of Zenia. Developed by cuts and trenches; no production. (Trask 50:337.)
	Sugar Pine	Sec. 20, T 3 N, R 7 E, HB&M	Julius R. Gugliemetti		Manganese prospect 1 mi. E of Hyampom. No production recorded. Idle.
	Sylvester and Wilson	Sec. 34, T 29 N, R 11 W, MDB&M	Joseph Sylvester and James Wilson, Wildwood (1950)		Small deposit of mixed manganese oxides 6 mi. S of Wildwood was mined out. (Bradley 18:90-91; Logan 26:36; Trask 50:337-338.)
	Tan Oak	Sec. 32, T 3 S, R 6 E, HB&M	Rohrbough Ranch (?)	Float (?) embedded in soil, 10 feet long and 5 feet wide. Estimated grade 40% Mn. Landslide area.	8 miles from Alder Point. Development trench around ore body. (Trask 50:338)

MANGANESE—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	The Manganese	Sec. 4, T 1 S, R 8 E, HB&M	Located in 1940 by T. J. Montgomery, Hayfork.	Partly oxidized, finely crystalline rhodonite and brown manganese chert. Some highgrade (40% Mn) black oxide ore. Enclosing chert strikes N 65° W, dips 50° NE.	Ore body 3 feet thick exposed by cuts for length of 6 feet and depth of 6 feet. (Trask 50:338)
	Three Rattles and a Button				See Armstrong No. 2 and 3, herein.
190	Trout Creek 1, 2, 3	Sec. 9, T 26 N, R 12 W, MDB&M	Alton Iliff, Ruth	Manganese oxides and carbonate associated with red chert and shale.	Several carloads of ore averaging 50% Mn were mined between 1954 and 1956. (Herein.)
	Twisted Oak 1	Sec. 9, T 4 S, R 6 E, HB&M	Leased to R. F. Helmke in 1942.	Bed of oxide ore 10 feet long, in red chert 60 feet long. Estimated grade 35% Mn. Landslides in area.	Ten miles from Alder Point. Exploration trench. (Trask 50:338)
	Wagon 2	Sec. 2, T 4 S, R 6 E, HB&M	Rohrbough Ranch; leased to R. F. Helmke in 1942.	Oxide ore; assayed 34% Mn, 29% Silica.	About 8 miles from Alder Point. Exploration cuts. (Trask 50:339)
	Ware 1	Sec. 18, T 3 S, R 6 E, HB&M	Philip Ware, Zenia (1941)	Stockwork oxide ore (20-30% Mn). Bed strikes N 60° W, dip 76° SW. Second ore-bed down slope. Chert nearby.	North side of Mud Creek. Exploration cuts. (Trask 50:338)
	White Oak	Sec. 13, T 2 S, R 8 E, HB&M	Located in 1942 by R. Hill and Ann Anderson.	Partly oxidized manganese carbonate in faulted and folded, thin-bedded, shaly chert.	Half a mile east of Hayfork trail from Mad River along Barnes Creek. (Trask 50:339.)
	Wool Mountain 1, 2	Sec. 31, T 3 S, R 6 E, HB&M	Rohrbough Ranch (?)	Stockwork ore in thin-bedded red chert. Grade of #1 estimated 20% Mn; #2 estimated 35% Mn. Complicated structure.	Seven miles from Alder Point. Bulldozer exploration cuts. (Trask 50:339)
	White Maple Springs				See McKnight and Kindred

MINERAL PAINT

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Bowerman deposit	Sec. 15, T 35 N, R 8 W, MDB&M	Undetermined		About 4 mi. N of Minersville. Red ochre occurs on E side of East Fork of Stuart Fork; used locally. Idle. (Aubury 06:342; Logan 26:63; Averill 41:69.)
	Southern Pacific deposit	Sec. 9, T 35 N, R 8 W, MDB&M	Southern Pacific Land Company, 65 Market Street, San Francisco		Material similar to Bowerman deposit. (Aubury 06:342; Logan 26:63; Averill 41:69.)

MINERAL SPRINGS

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
191	Deerlick Springs	Sec. 6, T 30 N, R 9 W, MDB&M	Undetermined		8 mi. N of Harrison Gulch Ranger Station. Group of 5 cold springs flow at 8 gal. per minute. Water contains sulfur, calcium, sodium, chlorine. (Waring 15: 261-263; Averill 41:69.)

PHOSPHATE

	Hyampom	Secs. 13, 24, T 3 N, R 6 E, HB&M		Phosphatic ovules in thin nonmarine sedimentary beds of the Weaverville formation of Oligocene age. Phosphate also in "fused slag", which appears to "intrude" the Weaverville beds.	Discovered in 1963. Opens for reconsideration the rocks in other Tertiary sedimentary basins in Trinity County, such as are found at Hayfork, Weaverville, Big Bar, and Reading Creek. (MacGinitie 37:84-151; Lydon 64:65-74; 99-106; herein.)

QUICKSILVER

192	Altoona (Castella Corporation)	Secs. 22, 26, T 38 N, R 6 W, MDB&M	Altoona Quicksilver Mining Company, c/o Richard Field, 743 Robles Ave., Menlo Park; leased to Bert C. Austin and Lynne A. Smith, Mills Bldg., San Francisco (1960)	Cinnabar in steeply dipping lenses of altered rock along faults cutting hornblende diorite.	Discovered in 1871. Major periods of operation were 1875-80, 1895-1901, and 1955-60. (Hanks 84:336; Irelan 88:643; Miller 90:716; Crawford 94: 372; 96: 603-604; Aubury 03: 192-193; 219; Brown 16:923-924; Bradley 18:200-201; Logan 26:65-66; Averill 31: 64; 41:70-72; Ransome and Kellogg 39:360, 423-474; O'Brien 43:330; Swinney 50: 395-404; herein.)
	Anna Bell	Sec. 1, T 34 N, R 11 W, MDB&M	Undetermined		Quicksilver prospect 2½ mi. S of Dedrick. Undeveloped. No production reported. (Logan 26: 66.)
	Boston Consolidated	Sec. 14, 15, 22, T 38 N, R 6 W, MDB&M	State of California		Patented claim in Integral Consolidated group, which see, about 12 mi. W of Castella. Idle.
	Carr Prospect	Sec. 22, T 38 N, R 6 W, MDB&M	Mrs. E. Johnston, Clay Hill, Boyce, Virginia		Patented claim about 12 mi. W of Castella. Open cuts run in 1910's showed some cinnabar. Idle. (Aubury 03:193; Brown 16:924; Logan 26:66.)
	Castella Corporation				See Altoona, herein.
27	Copper Queen	Sec. 16, T 37 N, R 7 W, MDB&M	J. M. & I. M. Foster, Box 86, Tahoe Valley	Cinnabar occurs in brown clay and fractures in serpentine at the west end of the open cut. Leased in 1956.	See under Copper, herein. (Aubury 05:120; 08:145; Brown 16:879)
193	Esther (New River)	Sec. 18, T 37 N, R 12 W, MDB&M	Estate of A. J. Rupley, et al., Placerville	Narrow quartz vein in serpentine carries some cinnabar.	Quicksilver mine in New River district about 1 mi. E of Old Denny. A few flasks recovered in small pipe retort prior to 1941. Idle. (Averill 41:72.)

QUICKSILVER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Hub & Security	Sec. 14, T 38 N, R 6 W, MDB&M	John Hall, Dunsmuir	Shear zone in serpentine 50 feet wide, shows traces of cinnabar in lower cuts; low grade ore in upper cuts.	More exploration needed before investing in milling equipment. Examined in November 1962 by P. A. Lydon. (Herein.)
194	Integral Consolidated (Integral Quicksilver)	Sec. 14, 15, 22, 23, T 38 N, R 6 W, MDB&M	Zack and George Anderson, 930 Cherry St., Santa Rosa	Cinnabar occurs in irregular lenses in or at contact of serpentine and diorite porphyry.	12 mi. W of Castella. Developed by shaft 180 ft. deep with 5 levels, winze 130 ft. deep from lowest level to an adit 2760 ft. long, and a few hundred feet of drifts. Idle for many years; surface plant wrecked. Some production with 24-ton Knot and Osborne furnace 1902-03. Small production made by washing surface material through sluice boxes in 1956. (Crawford 94:372; 96:604; Aubury 03:193-195; Brown 16:924; Bradley 18:202; Logan 26:66-67; Ransome and Kellogg 39: 474; Averill 41:72.)
	Integral Quicksilver				See Integral Consolidated.
	Invincible Consolidated	Sec. 15, 21, 22, T 38 N, R 6 W, MDB&M	Wm. S. Simpson, Inc., 141 S. Broadway, New York 6, New York (Mineral Rights)		3 patented claims about 12 mi. W of Castella. Adjoins Integral Consolidated group, which see. No published report. Idle.
	New River				See Esther.
	Overland	Sec. (?), T 36 N, R 12 W, MDB&M	Undetermined		Quicksilver prospect in New River District, 40 mi. by trail from Highway 299. Idle. (Bradley 18:202; Logan 26:67.)
	Rare Metals Corporation of America				See Altoona (herein.)
	Ruby Lily				See Shasta Lily.
	Sentinal	Sec. 15, 21, 22, T 38 N, R 6 W, MDB&M	W. S. Simpson, Inc., 141 S. Broadway, New York 6, New York (Mineral Rights)		About 12 mi. W of Castella. 3 patented claims adjoining Integral Consolidated group, which see. No published report. Idle.
195	Shasta Lily (Ruby Lily)	Sec. 14, T 38 N, R 6 W, MDB&M	George L. Costa, Castella	Cinnabar in stringer zone that strikes N 43° W, dips vertically; serpentine wallrock.	About 11 mi. W of Castella. Developed by shaft 20 ft. deep, adit 75 ft. long, and 30 ft. lower than collar of shaft. Ore concentrated in sluice box and retorted in small D-retort. Worked intermittently by lessees. (Averill 41:72.)
	Taggert	Sec. 22, T 38 N, R 6 W, MDB&M	Forest Reed, 255 Yulupa St., Santa Rosa		Patented claim in Altoona district, 12 mi. W of Castella. No published report. Idle.
	Trinity Quicksilver 1 and 2	Sec. 21, 22, T 38 N, R 6 W, MDB&M	Zack and George Anderson, P.O. Box 406, Middletown (Mineral Rights)		About 12 mi. W of Castella. Undeveloped quicksilver prospect on patented land adjoining Altoona mine on the NW. Idle. (Brown 16:924; Aubury 03: 195; Bradley 18:203; Logan 26:67.) See Integral Consolidated also.

QUICKSILVER—Continued

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
	Trinity Quicksilver #3	Sec. 21, 22, T 38 N, R 6 W, MDB&M	Forest Reed, 255 Yulupa St., Santa Rosa		Patented claim in Altoona district, 12 mi. W of Castella. No published report. Idle.
	Universal Silvers				See Altoona (herein).
	Wolff Brothers Placer	Sec. 6, T 34 N, R 10 W, MDB&M	Undetermined	Seams of cinnabar in slate, overburden.	7 mi. N of Junction City. Considerable prospecting by tunneling; results unsatisfactory. Idle. (Miller 90:713.)

SAND AND GRAVEL

Map no.	Claim, mine, or group	Owner name, address	Location				Remarks
			Sec.	T.	R.	B & M	
196	Arbuckle Bros. Pit (Harms Bros. Mercer-Fraser, Trinity County)	Arbuckle Bros., Weaverville	19	33 N	9 W	MD	Intermittently active pit in dredge tailings along Weaver Creek about 2 mi. S of Weaverville. Operated by Harms Bros., in 1955; Mercer-Fraser in 1956; used intermittently by Trinity County Road Department.
197	Ball and Sons	N. M. Ball and Sons, Berkeley	7	33 N	9 W	MD	Inactive pit in dredge tailings along Weaver Creek ½ mi. E of Weaverville. Operated in 1947 as source of concrete aggregate for nearby State Highway. Contractor used dragline and portable plant.
198	Brown	Undetermined	NW¼ 24	33 N	9 W	MD	Inactive pit in dredge tailings along Trinity River approx. 2 mi. W of Lewiston. Contractor excavated and crushed 95,349 tons of sand and gravel for use as road base and bituminous aggregate in the Trinity project.
	Harms Bros. (Arbuckle Bros. pit)						Operated a portable crushing and screening plant in 1955; in Arbuckle Bros. pit (which see).
	Kizer (Yuba Consolidated Goldfields Division, Yuba Consolidated Industries, Inc.)		NW¼ 9	36 N	7 W	MD	Operated portable plant in tailings, processed 23,764 tons of sand and gravel for use as road base, and 10,173 tons for use as fill in the Trinity project. (see entry under Yuba Consolidated in gold section.)
199	Kizer	Undetermined	SW¼ 28	35 N	8 W	MD	Abandoned pit in dredge tailings along Stuart Fork about 1½ mi. N of Minersville. Contractor excavated and processed about 90,000 tons of sand and gravel for use as road base in the Trinity project.
	Mercer-Fraser (Arbuckle Bros. pit)						Operated a hot mix plant to furnish materials for highway US 299 in 1956. See Arbuckle Bros. pit.

SAND AND GRAVEL—Continued

Map no.	Claim, mine, or group	Owner name, address	Location				Remarks
			Sec.	T.	R.	B & M	
200	Mittry and Sons	Undetermined	NE¼ 36	35 N	9 W	MD	Abandoned pit in stream gravel in tributary to Stuart Fork approx. 3 mi. NW of Minersville. Contractor processed over 100,000 tons of sand and gravel for use as road base, filter and cover coat in the Trinity project.
201	Mittry and Sons (Sierra Const. Co.)	Undetermined	SE¼ 36	35 N	9 W	MD	Abandoned pit in tailings along Stuart Fork about 2½ mi. W of Minersville. Contractor processed 13,339 tons of sand and gravel for use as gravel blanket and filter material in the Trinity project.
202	Reading Bar (Trinity Sand and Gravel Co.)	Undetermined	Center 12	32 N	10 W	MD	Extensive deposit of hydraulic tailings along Reading Creek near Douglas City. Actively worked by Trinity Sand and Gravel Co. and worked intermittently prior to 1960 by various contractors to supply approx. 5,000 tons of concrete aggregate for the Trinity project. See Trinity Sand and Gravel Co. (herein.)
203	Richards	Undetermined	NE¼ 19	33 N	8 W	MD	Abandoned pit in extensive tailings deposit along the Trinity River at Lewiston, contractor processed 26,348 tons of sand and gravel for use as road base in the Trinity project.
204	Richards	Undetermined	NE¼ 23	33 N	9 W	MD	Abandoned pit in dredge tailings along Trinity River about 2 mi. W of Lewiston. Provided 19,962 tons of backfill sand, 6,760 tons of gravel road surface, and 3,252 tons of road cover coat for the Trinity project.
	Sierra Const. Co. (Mittry & Sons)						Operated in same tailings deposit as Mittry and Sons. Processed 96,230 tons of sand and gravel for use as road base, cover coat, and filter material in Trinity project (see Mittry and Sons).
205	Sierra Const. Co.	Undetermined	SE¼ 35	35 N	9 W	MD	Abandoned pit in tailings along Stuart Fork about 3½ miles west of Minersville. Provided 9,828 tons of sand cobble backfill for the Trinity project.
206	Transocean Engineers	Undetermined	NW¼ 5	33 N	8 W	MD	Abandoned pit in tailings along Trinity River about 2½ miles north of Lewiston. Contractor processed 39,029 tons of sand and gravel for use as road base in the Trinity project.
	Trinity County (Arbuckle Bros. Pit)						(See Arbuckle Bros. Pit)
207	Trinity River Tailings	U. S. Bureau of Reclamation	3, 4, 9, 10, 15, 21, 22, 28, 33 35, 34	34 N 35 N	8 W 8 W	MD MD	Dredge tailings along Trinity Creek used by various contractors to provide material for the Trinity Dam.
	Trinity River Sand and Gravel Co. (Reading Bar)						Excavates sand and gravel from tailings at Reading Bar near Douglas City. (Herein)

STONE, CRUSHED AND BROKEN

Map no.	Claim, mine, or group	Owner name, address	Location				Remarks
			Sec.	T.	R.	B & M	
208	Brown	Undetermined	NE¼ 16	34 N	8 W	MD	Abandoned quarry about 1½ mi. S. of Minersville in Copley greenstone. Provided 16,649 tons of rip-rap for Trinity Dam.
	Gates and Fox (USBR quarry)						Excavated 662,751 tons of greenstone for use in Trinity Dam. See USBR quarry.
209	Mittry and Sons	Undetermined	NW¼ 35	35 N	9 W	MD	Abandoned quarry about 1½ mi. E. of Trinity Alps in Copley greenstone. Provided 40,649 tons of rip rap for the Trinity project.
210	Northwestern Pacific Railroad Co.	Northwestern Pacific Land Co. San Francisco	15	5 S	6 E	H	Active quarry at Island Mt. in Franciscan greenstone. Quarried for use as rip rap and ballast.
211	Sierra Construction Co.	Undetermined	SW¼ 36	35 N	9 W	MD	Abandoned quarry about 3½ mi. W of Minersville, in Copley greenstone. Provided 2,920 tons of rip-rap for Trinity project.
212	Transocean Engineers	Undetermined	NE¼ 18	33 N	8 W	MD	Abandoned quarry about 1 mi. N of Lewiston in Copley greenstone. Provided 15,120 tons of rip-rap for use in the Trinity project.
213	Trinity Dam quarry	Undetermined	20	34 N	8 W	MD	Abandoned quarry located about 2 mi. from Trinity Dam in Copley greenstone. Stone removed from a quarry ½ mi. in extent, crushed and transported by belt conveyor and truck to damsite. Operated by various contractors for the federal government.
214	U. S. Bureau of Reclamation quarry	U. S. Government	10, 14, 15	34 N	8 W	MD	Abandoned quarries in Copley greenstone near Papoose Creek, used as source of rip-rap by various contractors for the Trinity Dam.

STONE, DIMENSION

Map no.	Claim, mine, or group	Owner name, address	Location				Remarks
			Sec.	T.	R.	B & M	
215	Brown's Mountain soapstone	Undetermined	21	33 N	9 W	MD	Abandoned quarry in light-gray soapstone, steatite in part, located 3 mi. SE of Weaverville. Active prior to 1905 when stone was quarried, sawed into blocks and used locally in fireplaces. (Aubury 06:353; Logan 26:67.)
216	Rush Creek Granite	Undetermined	26	34 N	9 W	MD	Abandoned quarry in hornblende granodiorite about 6 miles NW of Lewiston. Worked hard boulders in soft, weathered rock. Working face was 200 feet long. Active in 1890's when 7 stonecutters were employed. Production for 5 years between 1894 and 1903 was about $16,000. (Crawford 94:387; 96:623; Aubury 06:54; Brown 16:919-920; Averill 41:67.)

TUNGSTEN

Map no.	Name of claim, mine, or group	Location	Owner (Name, address)	Geology	Remarks and references
44	Clerbus Mae	Sec. 31, T 9 N, R 8 E, HB&M	Jim Robie, Fairfax, and Burt L. Berry, San Francisco	Sparse occurrence of scheelite in narrow quartz vein.	30 mi. N of Denny by road and trail; old gold mine. (O'Brien 43:142.) See also Clerbus Mae lode gold mine.
	Ditchline	Sec. 18, T 33 N, R 8 W, MDB&M; Sec. 13, T 33 N, R 9 W, MDB&M	Tom Gay, Eric Spears, Alex Nalivaiko, Lewiston		About 1 mi. NW of Lewiston. Presence of scheelite noted in some float specimens along ditch and road cut. No commercial ore developed.

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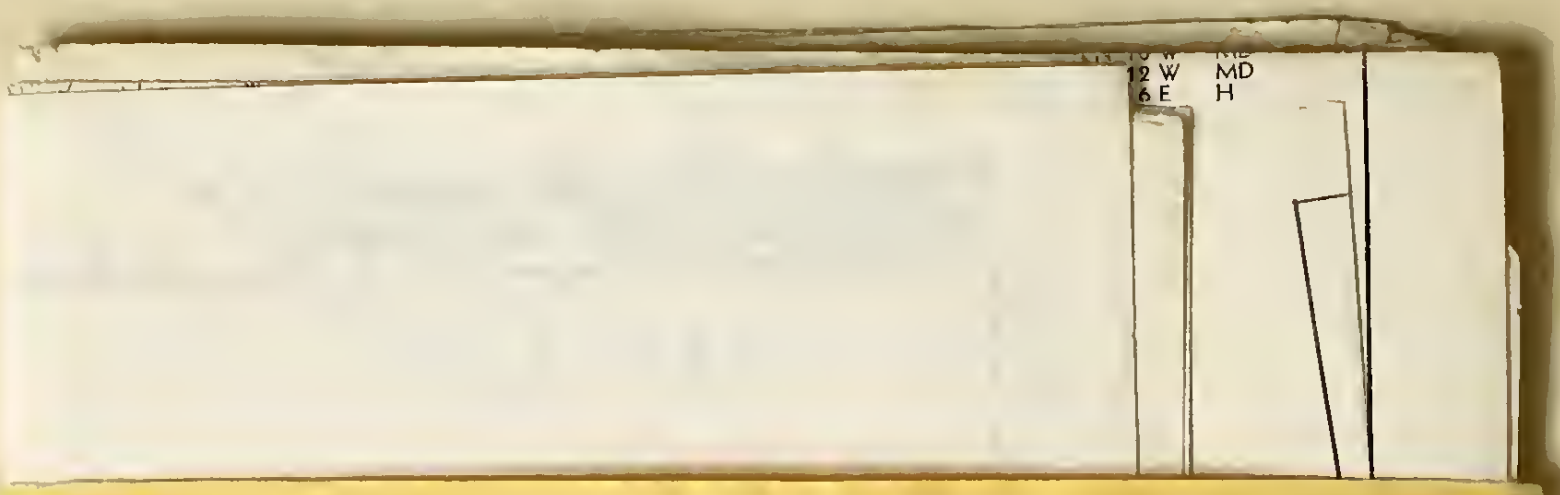

DIVISION OF MINES AND GEOLOGY
IAN CAMPBELL, STATE GEOLOGIST

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION


HUMBOLDT MERIDIAN
MOUNT DIABLO MERIDIAN
R R.7 E.
R.8 E.
R.5 E.
R.6 E.
R.12 W.
R.11 W.
R.10 W.
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TRINITY
SISKIYOU
Potato Mtn.
Mary Blaine Mtn.
Old Denny
Virgin Buttes
Fawn Butte
Pony Buttes
Cabin Pk.
Thompson Pk.
Wedding Cake
Sapphire Lake
Emerald L.
Mirror L.
Papoose Lake
Sawtooth Mtn.
Smith L.
Little Granite Pk.
Standard
Deadman Peak
Chipmunk Meadow
Battle Mtn.
Preachers Peak
Sugar Pine Butte
Red Rock Mtn.
Snowslide Pk.
Mumford Pk.
Seven Up Pk.
Siligo Pk
Gibson Pk.
Middle Pk.
Granite Rk.
Red Mtn.
Ycatapom Peak
Thumb Rock
Mills Hill
Denny
Beartooth Mtn
Zeigler Pt.
Happy Camp Mtn.
Salyer
Green Mtn.
China Peak
Pony Mtn.
Pony Camp Meadows
Keystone Meadows
Thurston Pks.
Blue Ridge
Manzanita Flat
Parallel
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STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

COUNTY REPORT 4
PLATE 1

LIST OF MINES, CLAIMS AND MINERAL DEPOSITS SHOWN ON MAP

Map No.	Name	Location Sec.	T.	R.	
	Asbestos				
1	Eldenlou Group	19	38 N	6 W	MD
2	Jones Brothers	7	37 N	7 W	MD
3	Red Mountain	33	26 N	12 W	MD
4	Trinity River	6	39 N	6 W	MD
	Barite				
5	Alwood	32	7 N	7 E	H
	Chromite				
6	[illegible]	24	28 N	11 W	MD
7	Black Gem	14	38 N	6 W	MD
8	Black Crow No. 1 and No. 2	[illegible]	[illegible]	[illegible]	[illegible]
9	Charlen Sue	14	38 N	6 W	MD
10	Crow Creek	11	38 N	6 W	MD
11	Highland Lake	2	37 N	6 W	MD
12	Hoelling	20, 21, 28, 29	1 N	8 E	H
13	Integral Consolidated	15	38 N	6 W	MD
14	Little Ann	30	31 N	12 W	MD
15	Low Gap	11	29 N	11 W	MD
16	Maringer	34	31 N	12 W	MD
17	Oak Ridge	10	2 N	7 E	H
18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LIST OF MINES, CLAIMS AND MINERAL DEPOSITS SHOWN ON MAP

Map No.	Name	Sec.	T.	R.	
	Asbestos				
1	Eldenlou Group	19	38 N	6 W	MD
2	Jones Brothers	7	37 N	7 W	MD
3	Red Mountain	33	26 N	12 W	MD
4	Trinity River	6	39 N	6 W	MD
	Barite				
5	Alwood	32	7 N	7 E	H
	Chromite				
6	Arrow Point	24	28 N	11 W	MD
7	Black Crane	16	38 N	9 W	MD
8	Black Crow No. 1 and No. 2	[illegible]			
9	Charlen Sue	14	38 N	6 W	MD
10	Crow Creek	11	38 N	6 W	MD
11	Highland Lake	2	37 N	6 W	MD

LIST OF MINES, CLAIMS AND MINERAL DEPOSITS SHOWN ON MAP—Continued

Map No.	Name	Sec.	T.	R.	
	Coal				
25	Big Bar	5	33 N	12 W	MD
26	Reese Brothers	32	32 N	9 W	MD
	Copper				
27	Copper Queen	16	37 N	7 W	MD
28	High Grade and Teressa	5	36 N	12 W	MD
29	Island Mountain	9, 10, 15	5 S	6 E	H
30	Murphy	36	1 N	7 E	H
	Lode Gold				
31	[illegible]				
32	Amy Batch	[illegible]	32 N	8 W	MD
33	Bear Tooth	[illegible], 3	7 N	7 E	H
34	Belli	32	33 N	7 W	MD
35	Black Cloud Group	31, 32	34 N	9 W	MD
36	Blagrave	10	37 N	7 W	MD
37	Blue Jacket	17, 18	37 N	7 W	MD
38	Bonanza King	12, 13, 14	37 N	7 W	MD
39	Boomer	19	37 N	12 W	MD
40	Brooks	24	9 N	7 E	H
41	Brown Bear	13, 14	33 N	8 W	MD
42	Bully Choop	4, 5, 8, 9	31 N	8 W	MD
43	Chanchelulla	12	30 N	10 W	MD
44	Clerbus Mae	31	9 N	8 E	H
45	Cleveland	4, 9, 16	31 N	8 W	MD
46	Dixie Queen	14, 23	32 N	9 W	MD
47	Dorleska	17, 20	37 N	9 W	MD
48	Enterprise 1 & 2	33	35 N	11 W	MD
49	Fairview	10	34 N	8 W	MD
50	Five Pines	19	35 N	7 W	MD
51	Globe	15, 16, 21	35 N	10 W	MD
52	Golden Jubilee	4	37 N	8 W	MD
53	Grand National	25	39 N	8 W	MD
54	Gypsy Queen Group	23	38 N	9 W	MD
55	Hardscrabble	10, 15	38 N	9 W	MD
56	Hazel D Group	32(?)	7 N	7 E	H
57	Headlight Consolidated	20, 21	37 N	7 W	MD
58	Henry Clay	11	33 N	8 W	MD
59	Hunter	16	8 N	8 E	H
60	Index	29	7 N	7 E	H
61	Iron Dike	18	37 N	7 W	MD
62	Jumbo	28	9 N	7 E	H
63	Kelly	17	31 N	11 W	MD
64	La Clair	13, 24	35 N	8 W	MD
65	Larry	11	33 N	8 W	MD
66	Layman	20	31 N	11 W	MD
67	Liberty	4	37 N	8 W	MD
68	Little Anna	13	34 N	9 W	MD
69	Lone Jack	13	35 N	11 W	MD
70	Maple	29	35 N	10 W	MD
71	Mary Blaine	18	37 N	12 W	MD
72	Mason and Thayer	32, 33	35 N	10 W	MD
73	McLaron Group	4, 9	35 N	11 W	MD
74	Meckel-Fields	15, 21	34 N	10 W	MD
75	Modoc	34	38 N	8 W	MD
		3	37 N	8 W	MD
76	Mueller	21	31 N	11 W	MD
77	New Blue Jay	13	37 N	8 W	MD
78	Ozark	4, 9	34 N	11 W	MD
79	Paymaster	2	33 N	8 W	MD
80	Phillips	14	32 N	9 W	MD
81	Ralston	21	35 N	10 W	MD
82	Salmon Summit	23	9 N	7 E	H
83	Scorpion	27	31 N	11 W	MD
84	Sherwood	9	8 N	8 E	H
85	Silver Grey	33	35 N	10 W	MD
86	Slake Shack	28	7 N	7 E	H
87	Starvation	11	33 N	8 W	MD
88	Strode	9	37 N	7 W	MD
89	Uncle Sam	8	8 N	8 E	H
90	Venecia	3	33 N	8 W	MD
91	Vermont	13	33 N	8 W	MD
92	Woodrat	19	34 N	8 W	MD
93	Yellowstone	29, 32	35 N	11 W	MD
94	Yellow Surprise	10	33 N	11 W	MD
	Placer Gold				
95	Albia	[illegible], 9	7 N	8 E	H
96	Atomic Mining Company	1	32 N	10 W	MD
97	Bates and Van Matre	33	34 N	8 W	MD
98	Batham Dredge	33	35 N	8 W	MD
99	Beaudry	28, 29, 3[illegible], 33	35 N	8 W	MD
100	Bennett Hydraulic	6	33 N	12 W	MD
101	Bergin	18	33 N	10 W	MD
		12, 1[illegible], 24	33 N	11 W	MD
102	B.H.K. Dredge	20	33 N	9 W	MD
103	Brown's Creek	9, 16	33 N	9 W	MD
104	Buckeye	19	37 N	7 W	MD
105	Burger	12, 13	34 N	11 W	MD
106	California-Keystone	6	35 N	11 W	MD
107	Canyon Placers, Inc.	29, 30, 31	35 N	10 W	MD
108	Carrville Gold Company Dredge	17	37 N	7 W	MD
109	Chapman and Fisher	30	33 N	10 W	MD
110	Cinco Mineros Company	[illegible], 8	31 N	11 W	MD
111	Clear Creek Gold Dredging Co.	18	32 N	9 W	MD
112	Clipper	13, 24	34 N	11 W	MD
113	Coro	14	36 N	8 W	MD
114	Corona	17, 18	6 N	6 E	H
115	Costa Ranch	16	34 N	9 W	MD
116	Diener	20	35 N	8 W	MD
117	Dobbins Gulch Dredging Co	19, 30	33 N	9 W	MD
118	Eastman	33, 34	34 N	8 W	MD
119	English Tom	3, 8	33 N	8 W	MD
120	Fairview Placers Dredge	18	35 N	7 W	MD
121	French Bar	19, 30	5 N	8 E	H
122	Glacier and Junction	26	38 N	9 W	MD
123	Gold [illegible]	[illegible]			MD
124	Golden Gravels	34	34 N	11 W	MD
125	Goldfield Consolidated	35	34 N	11 W	MD
126	Good Friday	20	33 N	10 W	MD

LIST OF MINES, CLAIMS AND MINERAL DEPOSITS SHOWN ON MAP—Continued

Map No.	Name	Sec.	T.	R.	
139	Maple Creek	5, 6	32 N	10 W	MD
140	McAtee Bar	27, 33	7 N	7 E	H
141	Minersville	22, 27	35 N	8 W	MD
142	Mires and Underseath Dredge	31	38 N	9 W	MD
143	Molitor	33	37 N	11 W	MD
144	Niedra	33	38 N	9 W	MD
145	North Fork Hydraulic	29	34 N	11 W	MD
146	Oregon Gulch Dredging Co.	7	33 N	10 W	MD
147	Oro Del Lomas Mining Co.	29, 30	5 N	8 E	H
148	P & W Mining Company	25	5 N	7 E	H
149	Pansy	15	36 N	8 W	MD
150	Pickett and Stoler	5, 6	33 N	8 W	MD
		32	34 N	8 W	MD
151	Placer Exploration Company	1, 12	32 N	10 W	MD
		32	36 N	7 W	MD
152	Price	4, 5	33 N	12 W	MD
153	Rainbow	32	32 N	8 W	MD
154	Rex Hydraulic	7	33 N	9 W	MD
155	Rising Sun Group	22, 27	34 N	9 W	MD
156	Roe	31	33 N	9 W	MD
		6	32 N	9 W	MD
		1	32 N	10 W	MD
157	[illegible]				
158	Snow Gulch	21, 28	37 N	7 W	MD
159	Steiner Flat	35, 36	33 N	10 W	MD
160	Swanson	23	6 N	5 E	H
161	Thompson Divide Mining Co	11	36 N	7 W	MD
		8	33 N	8 W	MD
162	Tinsley and Treloar	5	33 N	12 W	MD
163	Tolly Hill	34	35 N	9 W	MD
164	Union Hill	6	32 N	9 W	MD
165	Up Grade	18	6 N	7 E	H
166	Upham	29, 30	32 N	8 W	MD
167	Uphill Mining Company	1	34 N	11 W	MD
168	Yuba Consolidated Gold Fields	4, 5, 8, 9	36 N	7 W	MD
	Iron				
169	Hill Top	2, 3	37 N	7 W	MD
		34, 35	38 N	7 W	MD
170	Iron Chief No. 1 & 3	4	30 N	10 W	MD
	Manganese				
171	Armstrong 2 and 3	19, 20	3 S	8 E	H
172	Barry Creek	18	27 N	12 W	MD
173	Bertha	32, 33	27 N	10 W	MD
174	Black Oak	5	3 S	6 E	H
175	Blue Jay	8, 17	26 N	12 W	MD
176	Bonanza	10	27 N	12 W	MD
177	Coldwater No. 1 and 2	5	4 S	6 E	H
178	Double A	16	3 S	8 E	H
179	Goat Camp	35, 36	29 N	11 W	MD
180	Griffiths Mining and Development Company	18	2 S	8 E	H
181	Hale Creek	23	1 S	6 E	H
182	Lucky Sunday	32	27 N	12 W	MD
183	Manganese Queen	26	30 N	12 W	MD
184	McKnight and Kindred	8	4 S	6 E	H
185	Nealus Peak	7	4 S	6 E	H
186	Old Bill	9	28 N	11 W	MD
187	Shell View	16	4 S	6 E	H
188	Spider	16	28 N	11 W	MD
189	Stockton	9	3 S	6 E	H
190	Trout Creek 1, 2 and 3	9	26 N	12 W	MD
	Mineral Springs				
191	Deerlick Springs	6	30 N	9 W	MD
	Phosphate				
	Hyampom	13, 24	3 N	6 E	H
	Quicksilver				
192	Altoona	22, 26	38 N	6 W	MD
193	Esther	18	37 N	12 W	MD
194	Integral Consolidated	15	38 N	6 W	MD
195	Shasta Lily	14	38 N	6 W	MD
	Sand and Gravel				
196	Arbuckle Bros.	19	33 N	9 W	MD
197	Ball and Sons	7	33 N	9 W	MD
198	Brown	(NW¼) 24	33 N	9 W	MD
199	Kizer	(SW¼) 28	35 N	8 W	MD
200	Mittry and Sons	(NE¼) 36	35 N	9 W	MD
201	Mittry and Sons	(SE¼) 36	35 N	9 W	MD
202	Reading Bar	(Ctr.) 12	32 N	10 W	MD
203	Richards	(NE¼) 19	33 N	8 W	MD
204	Richards	(NE¼) 23	33 N	9 W	MD
205	Sierra Const. Co.	(SE¼) 35	35 N	9 W	MD
206	Transocean Engineers	(NW¼) 5	33 N	8 W	MD
207	Trinity River tailings	3, 4, 9, 10, 15	34 N	8 W	MD
		21, 22, 28, 33	34 N	8 W	MD
		34, 35	35 N	8 W	MD
	Stone, Crushed and Broken				
208	Brown	16	34 N	8 W	MD
209	Mittry and Sons	35	35 N	9 W	MD
210	Northwestern Pacific R.R. Co.	15	5 S	6 E	H
211	Sierra Construction Co.	36	35 N	9 W	MD
212	Transocean Engineers	18	33 N	8 W	MD
213	Trinity Dam quarry	20	34 N	8 W	MD
214	USBR quarry	14	34 N	8 W	MD
	Stone, Dimension				
215	Brown's Mountain Soapstone	21	33 N	9 W	MD
216	Rush Creek Granite	26	34 N	9 W	MD
	Stone, Limestone				
217	Barker Creek	16, 17	32 N	11 W	MD
218	Barker Mountain	32	33 N	11 W	MD
		5	32 N	11 W	MD
219	Bridge Gulch	34	31 N	11 W	MD
220	Byrons Creek	22, 27	31 N	10 W	MD
221	Cave Creek	12	1 S	7 E	H
222	China Gulch	26, 35	31 N	11 W	MD
		2	30 N	11 W	MD
223	Del Loma	30	5 N	8 E	H
		22, 24, 25	5 N	7 E	H
224	Dutch Creek	35	33 N	11 W	MD
		11	32 N	11 W	MD
225	Gunsight Peak	8	31 N	8 W	MD
226	Hall City Cave	28, 29, 32, 33	30 N	10 W	MD
227	Hayfork Bally	18, 19	33 N	12 W	MD
228	Hyampom	36	3 N	6 E	H

T. 1 N.

T. 1 S.

T. 2 S.

T. 3 S.

T. 4 S.

T. 5 S.

40°00'

T. 30 N.

T. 29 N.

T. 28 N.

T. 27 N.

T. 26 N.

T. 25 N.

R. 6 E.

R. 7 E.

R. 8 E.

R. 12 W.

R. 11 W.

R. 10 W.

ASBESTOS

BARITE

CHROMITE

COAL

COPPER

GOLD, LODE

GOLD, PLACER

IRON

MAP OF TRI

LOCATIONS OF M

MINER

BASE MAP ADAPTED FROM MAP OF

Map No.	Name	Location Sec.	T.	R	
	Asbestos				
1	Eldenlou Group	19	38 N	6 W	MD
2	Jones Brothers	7	37 N	7 W	MD
3	Red Mountain	33	26 N	12 W	MD
4	Trinity River	6	39 N	6 W	MD
	Barite				
5	Alwood	32	7 N	7 E	H
	Chromite				
7	Black Crow	24	28 N	11 W	MD
8	Black Crow No. 1 and No. 2	14	38 N	6 W	MD
9	Chalen Sue	14	38 N	6 W	MD
10	Crow Creek	11	38 N	6 W	MD
11	Highland Lake	2	37 N	6 W	MD
12	Hoelling	20, 21, 28, 29	1 N	8 E	H
13	Integel Consolidated	15	38 N	6 W	MD
14	Little Ann	30	31 N	12 W	MD
15	Low Gap	11	29 N	11 W	MD
16	Matinger	34	31 N	12 W	MD
17	Oak Ridge	10	2 N	7 E	H
18	Peewee	21, 22	30 N	12 W	MD
19	Redskin	9, 10	2 N	7 E	H
20	September Morn	9	29 N	11 W	MD
21	Shasta Lily	14	38 N	6 W	MD
22	Sunny Slope	14, 15	29 N	11 W	MD
23	Twin Cedars	32	30 N	12 W	MD
24	Yellow Pine	10	2 N	7 E	H
	Buckeye	19	37 N	7 W	MD
	Burger	12, 13	34 N	11 W	MD
	California Keystone	6	35 N	11 W	MD
	Canyon Placers, Inc.	29, 30, 31	35 N	10 W	MD
	Cairville Gold Dredge Company	17	37 N	7 W	MD
	Chapman and Fisher	30	33 N	10 W	MD
	Cinco Minerals Company	8	31 N	11 W	MD
	Clear Creek Gold Dredging Co.	18	32 N	9 W	MD
	Clipper	13, 24	34 N	11 W	MD
	Coro	14	36 N	8 W	MD
	Corono	11, 18	6 N	6 E	H
	Costa Ranch	16	34 N	9 W	MD
	Dienes	20	35 N	8 W	MD
	Dobbini Gulch Dredging Co.	19, 30	33 N	9 W	MD
	Eastman	33, 34	34 N	8 W	MD
	English Tom	8	33 N	8 W	MD
	Fairview Placers Dredge	18	35 N	7 W	MD
	French Bar	19, 30	5 N	8 E	H
	Glacier and Junction	26	36 N	9 W	MD
	Golden Gravels	31, 34	34 N	11 W	MD
	Goldfield Consolidated	35	34 N	11 W	MD
	Good Friday	19, 20	33 N	10 W	MD
	Harold's Club Dredge	36	31 N	11 W	MD
	Hayward	25	5 N	7 E	H
		30	5 N	8 E	H
	Heninger	34, 35	38 N	9 W	MD
	Ho Hai	9	34 N	11 W	MD
	Holland	16, 17	38 N	8 W	MD
	Indian Creek Dredge	5, 8	33 N	9 W	MD
	Ingleside	21, 28	35 N	8 W	MD
	Junction City Dredge	35	34 N	11 W	MD
	Kaiser	26	39 N	7 W	MD
	La Grange	3	33 N	10 W	MD
	Lewiston Placers	20	33 N	8 W	MD
138	Lucky Strike and Ethie Belle	13, 14, 23, 24	33 N	10 W	MD
214	USBR quarry	14	34 N	8 W	MD
	Stone, Dimention				
215	Brown's Mountain Soapstone	21	33 N	9 W	MD
216	Ruth Creek Granite	26	34 N	9 W	MD
	Stone, Limestone				
217	Barker Creek	16, 17	32 N	11 W	MD
218	Barker Mountain	32	33 N	11 W	MD
		5	32 N	11 W	MD
		34	31 N	11 W	MD
219	Bridge Gulch	29, 27	31 N	10 W	MD
220	Bytons Creek	12	1 S	7 E	H
221	Cave Creek	26, 35	31 N	11 W	MD
222	China Gulch	2	30 N	11 W	MD
		30	5 N	8 E	H
223	Del Loma	22, 24, 25	5 N	7 E	H
224	Dutch Creek	35	33 N	11 W	MD
		11	32 N	11 W	MD
225	Giuntishi Peak	8	31 N	8 W	MD
226	Hall City Cave	28, 29, 32, 33	30 N	10 W	MD
227	Haylork Bally	18, 19	33 N	12 W	MD
228	Hyampom	36	3 N	6 E	H
		1	2 N	6 E	H
229	Indian Creek	19, 29, 33	32 N	8 W	MD
230	Limekiln Gulch	21, 28, 29, 32	33 N	9 W	MD
231	Limestone Creek	30, 31, 32	33 N	11 W	MD
232	Limestone Gulch	9, 11, 16	31 N	11 W	MD
233	Limestone Ridge	35	37 N	12 W	MD
234	Manzanita Creek	5	33 N	12 W	MD
235	New River	18, 19, 30, 31	7 N	7 E	H
		6, 7	6 N	7 E	H
236	Oregon Gulch	3(?)	33 N	10 W	MD
237	Potato Creek	6, 7	30 N	10 W	MD
238	Prospect Creek	16, 17, 21, 27	28 N	11 W	MD
239	White Rock	19, 20	28 N	10 W	MD

MINERAL COMMODITY SYMBOLS

- ASBESTOS
- BARITE
- CHROMITE
- COAL
- COPPER
- GOLD, LODE
- GOLD, PLACER
- IRON
- LIMESTONE
- MANGANESE
- MINERAL SPRINGS
- QUICKSILVER
- SAND and GRAVEL
- STONE, CRUSHED and BROKEN
- STONE, DIMENSION

MAP OF TRINITY COUNTY, CALIFORNIA

SHOWING

LOCATIONS OF MINES AND MINERAL RESOURCES

1 0 1 2 3 4 5
MILES

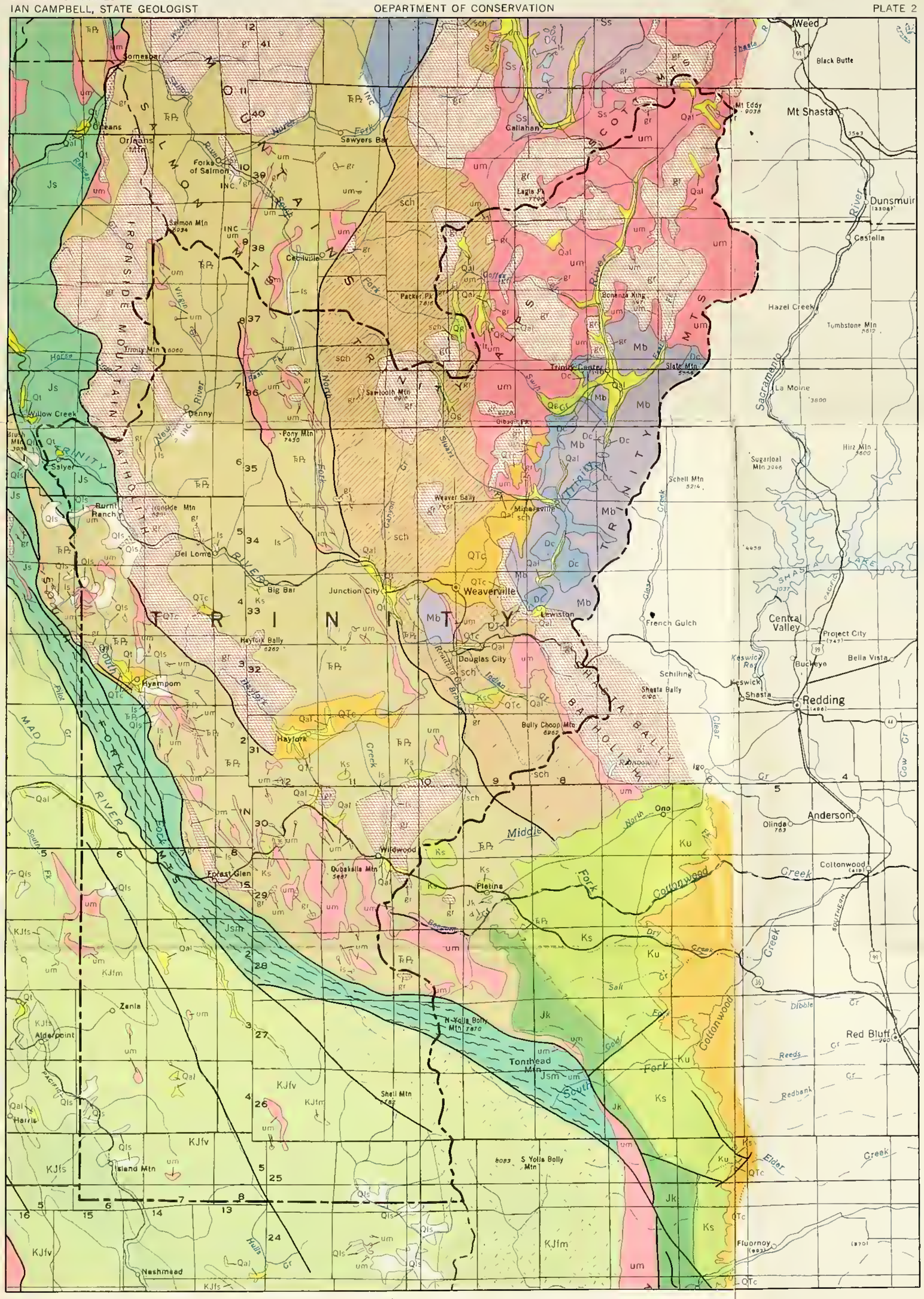
N

BASE MAP ADAPTED FROM MAP OF TRINITY COUNTY BY CALIFORNIA STATE DIVISION OF FORESTRY, 1956.

DIVISION OF MINES AND GEOLOGY
IAN CAMPBELL, STATE GEOLOGIST

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

COUNTY REPORT 4
PLATE 2



GENERALIZED GEOLOGIC MAP OF TRINITY COUNTY, CALIFORNIA

AFTER W. P. IRWIN, 1960

EXPLANATION

QUATERNARY

Qal | Qt / Qls / Qg

Surficial deposits

Valley fill and stream gravels, Qal; marine and river terrace gravels, Qt; landslide debris, Qls; and glacial deposits, Qg

TERTIARY

QTc

Continental sedimentary rocks

Includes Weaverville Formation

CRETACEOUS

Ku

Sandstone, shale, and conglomerate

Ks

Shasta Series

Sandstone, shale, and conglomerate

UPPER JURASSIC AND CRETACEOUS

KJfv | KJfs | KJfm

Franciscan Formation

Sandstone, shale, conglomerate, greenstone, chert, and minor limestone and glaucophane schist (KJfv); sandstone, shale, and conglomerate (KJfs); mildly metamorphosed lithologic equivalents of KJfv and KJfs (KJfm)

JURASSIC

Jk

Knoxville Formation

Shale, sandstone, and conglomerate

Js

Sandstone, shale, and conglomerate

Includes Galice Formation

Jsm

Mica schist and greenschist

May be more highly metamorphosed equivalent of Js

PALEOZOIC AND TRIASSIC

TrPz ls

Undifferentiated phyllite, chert, limestone (ls), and metavolcanic rocks

Includes Lower Slate Series, southwestern Devonian and Carboniferous belts, and Chanchelulla Formation

MISSISSIPPIAN

Mb

Bragdon Formation

Shale, sandstone, and conglomerate

DEVONIAN

Dc

Copley Greenstone

Chiefly andesitic and basaltic flows, agglomerates, and tuffs

SILURIAN

Ss ls

Shale, sandstone, chert, conglomerate, (Ss), and limestone (ls)

PRE-SILURIAN (?)

sch

Schists

Dominantly hornblende schist, actinolite-epidote schist, and mica schist of the Abrams and Salmon Formations

INTRUSIVE ROCKS

JURASSIC AND CRETACEOUS (?)

um

Ultramafic rocks

In part serpentinized

gr

Granitic rocks

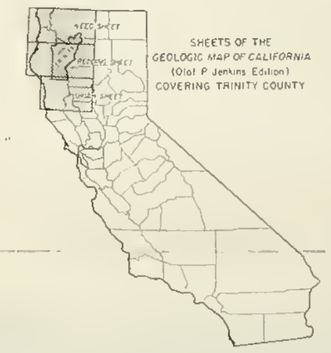
Chiefly hornblende diorite, quartz diorite, and granodiorite; includes minor gabbro, and granite

CONTACT

Query marks end of mapped contact

FAULT

INC = Mapping Incomplete




DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY
THE GREAT SEAL OF THE STATE OF CALIFORNIA
EUREKA